Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

SHOUT
SHARE
IT

AD-33 Bookplate
(1-63)

NATIONAL
AGRICULTURAL
LIBRARY

UNITED STATES DEPARTMENT OF AGRICULTURE
1862 1889

1.9
F76W
v. 15

13

14

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
> Theodore Roosevelt

Vol. XV, No. 1 Washington, D. C. January 5, 1931

WHAT PRICE SCENIC BEAUTY?

By L. F. Kneipp, Washington

Pioneer communities necessarily are materialistic. Their first thought must be to employ the available natural resources to build up essential institutions; to regard industrial utilization as dominant. Pioneer foresters, by force of circumstances, likewise were materialistic. The guage of their merit was that of financial profit and they had to meet it. As a hang-over of these conditions, the feeling is still strongly prevalent that the preservation of forest beauty through the nonuse of mature trees is unwarranted wastage and distinctly poor business. But is it?

The ultimate test of the importance of any social service is that of the sacrifices people are willing to make to enjoy it. If they are willing to forgo opportunities for profit, to accept heavier burdens of taxation, to agree to further restrictions upon the use of their properties, in order to promote a given movement, its merit is inescapably established. On these bases there can be no further question of the importance of preserving, or re-establishing the forest beauty of roadside lands. People are not alone acquiescing in such a program, they are demnading it in no uncertain terms.

Westchester County, New York, is virtually a suburb of the great metropolis and some of its land is worth dollars per square foot. Within its limits during the past decade a most remarkable program of development has been carried on under the direction of Mr. Jay Downer. Scores of millions of dollars have been spent, but incidentally more scores of millions have been added to the value of the abutting lands. One feature of the program has been the extensive and beautiful road system which is, in fact, the frame-work of the entire project.

Westchester County has little in common with the National Forests except as a barometer of the degree to which the people demand and are willing to pay for scenic beauty. But the principles governing its development will be common enough a quarter-century from now and undoubtedly are criteria of the trends of public thought. As a point of departure for our thinking on this subject of roadside protection it seemed worth while to ask Mr. Downer for a statement of the principles which govern the Westchester County development. He is an exceedingly busy man, but his interest in our problem caused him to reply in detail to our queries, so interestingly in fact as to elicit from Major Stuart the following comment:

"A splendid, sensible letter from Downer. I suggest we send a copy to Regions. A

Bulletin article on how Westchester County does it may make a further impress. The important point the letter carries is point of view and need for adaption."

Mr. Downer's letter is not offered as establishing the standards which should prevail within the National Forests, but rather as an expression of public viewpoint, but, aside from the specification in feet of the proper width of reserved strips the principles it expresses may after all be applicable within the National Forests. The letter is as follows:

Dear Mr. Kneipp:

Your communication, dated November 22, 1930, was duly received and would have been answered sooner, except for absences from the office. We have given much thought to the questions raised by you; that is, as to the width of strip on each side of a highway, which should be reserved or withheld from occupancy by structures, in order to conserve scenic and aesthetic qualities. We have never been able to lay down a hard and fast rule for established widths, for the reason that the conditions along the roadways vary constantly and what would be sufficient width in one situation would be entirely insufficient in another.

In our earlier parkways going through expensive properties we have some minimum widths of 200 feet, but we are finding this very unsatisfactory and are now trying to establish an absolute minimum of not less than 300 feet, which gives us an average of about 130 feet on each side of the driveway. It should be kept in mind that this is a minimum. Wherever we encounter attractive woodlands, outcropping ledges or other natural features, we widen our takings to include them, in some cases going out 1,000 or 1,200 feet or in fact taking in a small park to afford a stopping place for motorists as well as to preserve the beauties of the landscape. We regard as particularly important the acquisition of slopes facing our driveways and we extend our boundaries, where necessary, to acquire all those nearby slopes which might otherwise be denuded of timber or built upon in such a way as to mar the view from the road.

Answering more specifically the questions in your letter and commenting on same, I would advise as follows:

1. A minimum of 150 feet on each side of the road is usually the minimum width necessary to protect the aesthetic values of the system. It cannot be too strongly emphasized that this is the minimum and that in picturesque country, where land values are moderate, greater widths are usually required. While in general this strip should be unoccupied, convenience will sometimes require the erection of roadside structures closer to the roadway. The designs of such structures, however, should be under the control of competent public authorities, who would see that they were developed in harmony with the surroundings.

2. These strips are not of uniform width in relation to a given highway, but should be varied almost constantly to conform to variations in conditions. Except perhaps in flat, open country, the boundaries of the strip will not be parallel to the center line of the highway.

3. Where standing timber exists along the highways, enough width should be acquired so that future cutting will not mar the view from the highway. It is more important to preserve existing timber than it is to plant additional trees. Few things are so irritating to the motoring public as the cutting of trees along roadways. Planting of trees is desirable to screen unsightly objects, to frame important vistas or in long stretches of open country to afford shade and break the monotony, but broad open views where no trees exist and occasional openings in wooded sections are desirable, if they do not disclose stumpage in the background.

4. This question seems to be fairly well answered in the preceding. Contractions in the widths of rights-of-way are sometimes unavoidable, but care should be taken to protect the roadsides from disfigurement by billboards, hot dog stands, etc. This way be

accomplished by screen planting, or by controlling the frontages; that is, prevention of access to unsightly stands. In Westchester County in locations where we have been unable to acquire satisfactory protective width, we purchase with the right-of-way strip a restriction against billboards covering an additional width of not less than 300 feet. I am enclosing a copy of our billboard restriction clause, as it appears in our contracts.

In general, permit me to say that nothing in connection with our work here has impressed me more than the appreciation by the public of the protection of roadside amenities. Our highways are now such an important factor in the daily life of our people that the public demand for the preservation of natural beauties and protection against unsightly encroachments is assuming gigantic proportions. These demands are now so articulate that many of the State Highway Departments are radically changing their policies as to cutting and clearing along old highways for purposes of widening and straightening . The problem of laying out new highways is simpler than that of widening and straightening old ones. However, we have found that the best results can be obtained only by close cooperation between our landscape architects and engineers. Our new routes are first projected by the landscape architect's forces, who outline the boundaries of the strip to be acquired. This is, of course, subject to checking and revision by the engineers, who actually stake out the roads, and by cordial cooperation and discussion between the two branches we generally secure a satisfactory result. As a civil engineer with some experience in these problems, I would strongly emphasize the importance of having your taking lines determined and your road alignments criticized by men with landscape training, or at least, a well developed landscape point of view.

Very truly yours,
/s/ JAY DOWNER,
Chief Engineer.

Restriction Clause

The deed of conveyance to the State of New York shall contain a covemant as follows:

The grantor, by reason of the consideration herein, covenants and agrees for himself, his heirs, executors, administrators, successors and assigns, that no bill board, sign board or advertising sign, shall be erected, permitted or maintained in or upon the remaining lands and premises now owned or hereafter acquired by the grantor immediately adjoining the lands herein conveyed, within a distance of three hundred feet therefrom measured at right angles thereto. This covenant is hereby declared to be a perpetual covenant and shall be construed as a real covenant attached to and running with the land.

1929 STUMPAGE TRANSACTIONS IN THE PACIFIC NORTHWEST

By Henry B. Steer, Washington

Those who were privileged to hear Colonel Greeley's talk on "Some Problems of the Lumber Industry in the Pacific Northwest," which was given before the Washington Section of the Society of American Foresters on November 13, were much interested in his statement that one of the basic reasons for the overproduction of lumber in the Pacific Northwest is the constant economic pressure brought to liquidate the frozen asset of standing timber and convert it into cash by logging operations.

That there is considerable movement in stumpage transactions in the Pacific Northwest is clearly shown by the number of questionnaires of 1929 stumpage sales which have been collected by the Division of Forest Economics through cooperation of the Bureau of the Census. Because this is a decennial year, which requires an immense and abnormal amount of statistical work on the part of the Bureau of the Census, stumpage questionnaires have been released by the Bureau of the Census very slowly. The data received up to and including November 1, 1930, from Oregon and Washington are now being tabulated and compiled. It is, of course, impossible to get a record of all sales of timber for 1929. However, the following table is unquestionably based on sufficient data to insure reliability of the averages.

1929 Stumpage Transactions

	No. of transactions	Acres	Quantity (M feet)	Total value (dollars)	Average value (dollars)	Stand per acre (M feet)
Washington	369	108,214	3,154,036	10,433,223	3.31	29.1
Oregon	266	271,796	6,149,008	20,028,314	3.26	22.6
Total	635	380,010	9,303,044	30,461,537	3.27	24.5

The above data are being analyzed by species, quality, distance from manufacturing plants, etc., and some very interesting results should be available in the near future.

Log sales for 1929, reported in the same manner as stumpage transactions, are also being tabulated and compiled. Being based on over 6½ billion feet, representative and accurate data should be available.

The 1928 lumber production of Washington and Oregon was as follows:

Lumber Cut, 1928 (M feet)	
Washington	7,305,277
Oregon	4,371,924
Total	11,677,201

It has been estimated that the 1929 lumber cut will not vary greatly from the amount cut in 1928.

An appreciable amount of lumber in Washington and Oregon is produced by firms who operate their own logging camps and buy very few or no logs on the open market. When this is taken into consideration, and the lumber cut is converted to log scale, the data on log sales represent at least 75 per cent of the open market sales in Washington and Oregon during 1929. The following data are now being analyzed and compiled.

1929 Log Sales

	No. of transactions	Quantity (M feet)	Total value (dollars)	Average value (dollars)
Oregon	228	1,670,226	25,234,837	15.11
Washington	611	4,981,764	79,039,902	15.87
Total	839	6,651,990	104,274,739	15.68

MY BUSINESS CREED

By G. G. Anderson, Washington

I have believed in work, for without honest toil there can be no worth while accomplishment. We read: "Whatsoever thy hand findeth to do, do it with thy might." Exercise strengthens not only the physical but the mental and spiritual muscles.

I have believed in play. Herbert Spencer wrote many years ago: "We have had somewhat too much of the gospel of work; it is time to preach the gospel of relaxation." Recreation, like sleep, is "tired nature's sweet restorer." Sometimes we do our playing by proxy, as at the ball game, in which I have been in some small way interested, but even so it is still recreation that eases "the strain of toil, the fret of care." As a corollary to this, I have believed in a happy outlook on life and the ability to see the lighter side which keeps the spirit and indeed the body young in spite of the onward flow of time.

I have believed in helpfulness and consideration in the contacts of daily life.

I have believed in loyalty--loyalty to the immediate job and loyalty to our cultural and spiritual ideals.

Above all, I have believed in the higher Power that guides our steps and sustains us when we are tired and discouraged. Confiding in this constant care I face serenely the advancing years.

Looking back over nearly thirty years of life in the Forest Service I can see many times when I have failed to measure up to these standards of work and life, but that is human frailty.

At this parting moment I echo the sentiment of a bit of newspaper verse I happened upon not long ago:

"If they shall say of me,
He shared what jests he knew,
And chancing pain to see
Did all that he could do
To soothe and ease the sting--
I'll ask no fairer thing."

CALIFORNIA-LAUREL VS. OREGON MYRTLE

By Daytonius, Washington

Under the heading, "Another touchdown for California," in the Service Bulletin for December 1, the writer ("T.T.M."), in the diction of the gridironed field, intimates that California has put over another "fast one" in changing the officially approved English equivalent for Umbellularia californica from Oregon myrtle to California-laurel.

If the undersigned may not appear guilty of undue temerity as regards his official betters--especially towards one so eminently skilled in dealing with facts as a Forest Experiment Station Director must be, may be respectfully ask three questions: (1) Is the honored Director serious or merely facetious in his charge that this nomenclatural change has a political basis? (2) If serious, what credible evidence has he? (3) In what respects is the name Oregon myrtle "time-honored"?

Here are a few of the very obvious facts that lead the entire membership of the Forest Service tree name committee, including the undersigned, to think California-laurel superior to Oregon myrtle for Umbellularia californica:

1. California-laurel is the name in most general use. It is universal in our Department except in the Forest Service and it was originally the approved name in the Forest Service (see first ed. of Sudworth's Check List, 1898), and was given preference over Oregon myrtle in Sudworth's "Forest trees of the Pacific slope." Following are a mere fraction of the authorities (omitting California ones) for California-laurel: Sargent ("Report on the forests of America," 1884; "Manual of the trees of North America," 1922); Britton & Schafer "North American trees," 1908); Frye & Rigg, of the University of Washington ("Northwest flora," 1912); Standardized Plant Names (1923), which is official in the the Government Printing Office; Rehder ("Manual of cultivated trees and shrubs," 1927—N.B. Rehder is generally admitted to be an outstanding nomenclatorial authority on both Latin and English plant names); Bailey ("Cyclopaedia of American Horticulture").

It must be admitted that, in what are perhaps the two original check lists of United States trees other names are used: Cooper (1859) calls this species "laurel" and "mountain bay," while Vasey (1875) uses "California myrtle." However, neither Cooper nor Vasey appears to have heard the name Oregon myrtle.

2. Umbellularia californica is the only species of the laurel family (Lauraceae) growing naturally in California. Its type locality is in California (as the specific name indicates). It is found throughout practically the entire length of the State of California but, in Oregon (fide Sudworth) is confined to a portion of the southwestern part of the State. Incidentally, the Century Dictionary, in many ways the most scholarly and thorough of our dictionaries, refers to Umbellularia as "a California tree."

3. Umbellularia californica has many distinctive laurel characters.

4. Oregon myrtle is a patent misnomer. The species is not a myrtle, nor a member of the myrtle family, nor closely related to the myrtle family, nor with any myrtlelike characteristics.

What valid reason exists for calling Umbellularia a myrtle? In 1800 our firs, spruces, and many other conifers were indiscriminately called "pines." We would not agree to that now, though they are far nearer pines than Umbellularia is to Myrtus.

YE EDITOR DISCOVERS

At high noon on December 23, the friends of G. G. Anderson came together and filled to overflowing the open spaces around the stairway on the seventh floor of the Atlantic Building. With appropriate words of appreciation and good will the Forester presented Mr. Anderson with a handsomely bound volume of letters written to him by his friends from all over the Service. In his reply Mr. Anderson reviewed in an interesting way the changes and advancement he has witnessed in the Forest Service since he first joined the organization as Gifford Pinchot's right-hand power in office administration. He referred to the extent to which he has acted as stork, bringing into the world of official appointment a large proportion of the present membership of the Forest Service, and outlined his business creed, which is quoted in another section of this issue of the Bulletin.

- - - - - - - -

In the Hearings on the Agricultural Appropriations Bill, Chief Clerk Reese of the Department had many things to say about the new "extensible building." This building will have a total of 1,407 windows in its 300,000 square feet, and ten elevators. Because the Atlantic Building has direct current, it will cost $6,000 to change the apparatus so that it can be used on alternating current. This will apply to adding machines and other types of computing equipment, fans, duplicators, etc.

Forest fires in France burned over 774,000 acres during the 10 years ending with 1929. On the average, 0.27 per cent of the total area of public forests and 0.37 per cent of private forests burns over each year. In Italy the average for all forests is 0.26 per cent, for Belgium 0.15 per cent, for Poland 0.12 per cent, and for Norway 0.07 per cent.

- - - - - - - -

Supervisor Howard Hopkins of the Chippewa has been transferred to the Branch of Forest Management in Washington, D. C., as a Forest Inspector. His major assignment is to make a compilation of the results of silvicultural practices on the National Forests.

- - - - - - - - - -

The impersonator in New Orleans of the brother of our Chief Engineer asked for $1.25 for bus fare. The chap who impersonated Mr. Sherman some time previously asked for $2.50. Mr. Sherman believes this is just one more indication that commodity prices are falling. Fred Morrell is on the fence as to whether the man's judgement was a bit punky in not asking for more than $1.25 after selling himself as Norcross' brother, or whether he was really a person with a high intelligence quotient who swiftly and accurately rated the Southern Experiment Station gang.

At any rate in choosing Norcross for his brother and also in asking for bus fare he was, it seems to us, quite in character. He was interested in good roads, and a low elapsed time, that is to say, quick get-away. Please call this item to the attention of Cap Winslow and Joe Kittredge.

NOW AND THEN ON THE WICHITA

By Charles Allen, Wichita

Again the statement made several years ago by William T. Hornaday, Sc.D., author of the American Natural History, that : "It is practically impossible to raise antelope in captivity," has been verified by facts.

But one remains to grieve and pine; roving the Exhibition Pasture in loneliness, picking out his carefully selected tidbits and giving visitors a proud, yet kindly eye. In fact, four of the remaining 5 antelope were recently found dead.

A person in search of Nature's most interesting animal would surely make long pause before an antelope.

In captivity this little prairie rover is as delicate as the first blush of a rose in springtime. The quantity of their stamina is very limited. Their moods are as subject to change as those of a frazzle nerved stock gambler. A buffalo will cling to life like ticks to a dog. Friend antelope is quite the reverse. They are short lived and drop off with distressing suddenness. Sometimes singly and often in groups.

Nevertheless, Supervisor Harry H. French's speciality is meeting and overcoming difficult problems. Mr. Prairie Rover, with his erect ears and head, semicircular, sharp pointed horns, wonderfully keen eyes and fantastically marked coat, throws out a well defined appearance of jauntiness and is far too unusual an attraction to ignore.

Mr. French has stated that the nucleus of another herd will be obtained, if possible, with the idea of liberating them in the 8,000 acre buffalo pasture, rather than the smaller exhibition pasture. In the larger enclosure they will have more liberty for catering to their natural instinct, which suggested the name of "Prairie Rover."

IS THIS THE SAME MAN?

Claiming relationship to one of our popular Forest officers seems to be the newest "racket." Last July notice was sent out from the Washington office warning members of the Service to be on the lookout for a man claiming to be named Sherman and to be a cousin of Mr. E. A. Sherman. This man would go to Forest Service offices and tell a story of having been in a traffic accident which disabled his car and resulted in his being arrested and fined for speeding. He explained that after paying his fine he did not have enough cash to pay bus fare to his destination. His alleged relationship to Mr. Sherman was used as an excuse for requesting a small loan.

The following letter has just been received from Director Demmon of the Southern Forest Experiment Station and leads us to believe that the man he describes and the one who used the name of Sherman may be the same.

"Yesterday afternoon a man called at this office and asked for the Engineer in charge. He was finally referred to Dr. Ziegler and claimed his name was Norcross and that he was a brother of T. W. Norcross in the Washington office. He also mentioned that he knew Mr. Sherman and that he was employed by an engineering firm of Cinncinnati, Ohio. His story was that a large truck crowded his own car off the highway and that he was out of funds and needed $1.25 to get back to his car via bus.

"This man is about 45 years old, about 5' 8" tall, weighs about 160 pounds, smooth-shaven, sandy gray hair, was wearing a brown overcoat and has a New England accent. He, no doubt, is an imposter and I have telephoned other agricultural departments in this city to be on the lookout for him. He slipped out of the office before Dr. Ziegler recalled Mr. Sherman's letter and felt satisfied that the man was working a confidence game."

Mr. Norcross says that very clearly the man is an imposter.

"WHAT A HOLLY TREE!"

"A holly tree that large?"

This and similar exclamations were heard in the Washington office during the Holidays. The cause was the display in the main entrance of an enlarged and colored photograph of a holly tree. This tree which grew in Desha county, Arkansas, near the Mississippi River measured about 50 feet in height and 15 inches in diameter, and was symmetrical and beautiful with a full load of bright red berries. The picture bore a brief description and the words "Heigh-ho, for the Green Holly. This life is most jolly."

To many people the holly is known or thought of only as a shrub or very small tree. The butchery of holly for Christmas greens has been so extensive that this once abundant eastern forest tree has been reduced to comparatively tiny remnants. Back in the '80's, holly wood furnished the beautiful white wood extensively used, along with that of black walnut, for jig-sawing into ornamental scrollwork.

FAST WORK

Within the three Purchase Units approved by the National Forest Reservation Commission in the State of Wisconsin, which were laid out primarily as demonstration areas, were included 327,150 acres considered purchasable. Already 201,367 acres of the total have been approved for purchase by the National Forest Reservation Commission.

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV No. 2 Washington, D. C. January 12, 1931

STANDARD OIL'S POLICY

(From "The Lamp," Standard Oil Company's House Organ)

A district sales manager of another oil company applied recently for a similar position with the Standard Oil Company of New Jersey. He displayed clippings from his company's publication testifying to a creditable record of sales improvement. He was surprised to learn that the positions of district sales manager and salesman, in fact all responsible positions, are filled by promoting men and not by direct employment. After hinting that there are no doubt exceptions to such a policy his surprise was complete when informed there are no exceptions, and that all new employees start at the bottom in service stations or on a tank truck and have definite assurance that vacancies up the line are filled by promoting men whose sales performance, plus potential ability, have entitled them to earn these positions.

In the Standard Oil Company (New Jersey), when a vacancy on the Board of Directors occurs, it is literally true that another office boy, laborer, roustabout, service station or tank truck sales helper, or engineer is employed and a long string of promotions reaching from the very bottom to the top are made. Among the members of the Board and on the respective boards of directors of subsidiary and affiliated companies are former tank truck salesmen, a handle solderer, mechanical helpers, office boys, roustabouts, pipe liners, deck hands and still firemen. In fact, bottom jobs of the company's major divisions are all represented. These men have climbed upward on the ladder of increasing responsibility and opportunity. They present a very human record of individual struggle, sacrifice, personal achievement and unstinting service and loyalty.

The executive personnel has in a similar manner been recruited from the ranks and earned successive promotions to their present places. The executive chair is far from an easy one, however. For along with the leather cushions and carpeted floors goes the brief case full of night work, the Saturday afternoon conferences, the responsibility of important decisions. Ability is essential for managerial positions, sure enough. But no man ever hangs his hat behind a ground glass door who is not able and willing to stand the gaff of responsibility.

One cannot but pause and reflect upon the fine human characteristics a company acquires from and perpetuates through such a process nurtured under this policy of promotions from within: thorough knowledge and skill in conducting business, a deep human understanding of human aspirations and requirements, ability to get on well with fellow men, an ingrained sense of responsibility, thrift, loyalty to people and ideals, devotion to work, the spirit and practice of service and sound character.

An organization is only as straightforward and above board in its dealings as are its executives and workers. Hence the very important factor of obtaining men of high personal integrity, as well as ability, and of training them in plain, ordinary, human virtue.

Recently a change was made in the sales personnel and as a result eight men moved up and a new recruit was employed at the bottom. Practically every requirement of the entire organization for men to fill responsible positions is met from within. Every laborer and office boy will not reach the boardroom, but there is a definite place farther up the line for every man, to the limit of his ability. Hardly a single employee but cannot look back over the past two, three or five years and note a definite record of improvement - fast or slow, depending on circumstances and his own efforts.

Well-selected raw recruits enter the employment portals, find conditions favorable to their best work, and are trained in some branch of the business. They look forward with keen anticipation to life service with the company, rather than a transient and temporary employment of a few years. The policy of advancement from within, together with this opportunity for life service. furnishes the incentive for individual achievement. Getting the right kind of men in at the bottom enables this policy to function. Vocations are learned and business careers acquired. The raw recruit of yesterday becomes the experienced operator, the skilled mechanic, the competent clerk, the outstanding salesman, the expert engineer and the successful business man of tomorrow. The company tries to build men as well as products.

A continuous sifting of personnel steadily goes on to insure the retention of those qualified to perform the work assigned them in the workshops, to insure the elimination of those who do not measure up to the standards of performance, and to select those for increased responsibilities. In this sifting of personnel length of service is the determining factor whenever the demonstrated and potential ability of those being considered are approximately equal. Obviously, the interests of the company, including those of all employees and stockholders and of the public, require that outstanding ability be recognized. Length of faithful service also requires that it be not obscured by hair-splitting differences in ability. Then too, there is a steady shifting of personnel from work in which they are not interested or equipped to do their best, to jobs where their qualifications enable them to fit.

Experienced supervisors and workmen take in tow the recruit who has just entered or recently been promoted, instruct, and train him in his tasks. Having started at the bottom themselves they are capable of turning their hand to any task within their field and can demonstrate the "one best way" of doing it. With such tutoring recruits become veterans and in turn train beginners following in their footsteps. Here is the birthplace of the germ of individual excellence and teamwork.

Under this arrangement every man is both learner and instructor. Fellowship as well as skill develops. Company schools have been established in the larger centers, the refund plan furnishes financial encouragement to the ambitious for additional educational opportunities and correspondence courses are now being made available. Industrial joint conferences, safety committees, efficiency, economy and suggestion committees, elimination of waste committees and various social, athletic and welfare committees, together with various committees for supervisors, all afford increasing numbers in the organization the opportunity for participating in experiences that are helpful to individual development and individual progress.

The policy of unlimited opportunity for advancement and individual initiative is not only an incentive to the individual, but a benefit to the business, and inevitably results in more efficient, more courteous service to the public.

The company sells its products throughout the world in competition with those of numerous other well established and successful concerns. The quality of its products, their price and the service to the customer are the sum total of the effectiveness of the entire organization. Policies are devised to contribute effectively to this objective. And so with the policy of promotion from within.

A policy born of business necessity has prospered both the company and the individual. The company has developed men, and these men have developed the business. The company takes pride in its personnel and their accomplishment.

PREMATURE OLD AGE

By R. R. Hill, Washington

We have been in the habit of thinking of the West as new country exploited just enough to reveal the vast extent of its resources but on the whole still awaiting the ingenuity and hand of man to unlock its unlimited wealth. To suddenly realize that instead of virgin resources we have in many places worn-out, desolate-looking waste lands shocks our pride and disturbs our faith in the adequacy of our natural resources to meet future needs, while it challenges our ability to husband and conserve the resources that are left.

Is it possible that within the space of two generations a virgin country could be robbed of its fertility and turned into a liability? No American pioneer would have believed that such a transition could occur on any of our western lands, but actually that is what has happened to many thousands of acres and it can happen to many more. It is true that much agricultural land has been farmed and pastured without serious depletion or fertility but over vast areas in the West Nature has developed a very delicate balance between the forces that build up and retain a productive soil and the forces which quickly tear down the soil accumulation of centuries and this balance is easily upset. Mantles of vegetation - herbaceous, shrub, and tree - have adapted themselves to all the vicissitudes and vagaries of climate and struggled to survive, each in the set of conditions under which it could put up the best fight against its competitors. By this process enough precious soil has been held in place so that the cover of vegetation could be maintained against the destructive agencies of rain and winds.

Although we have realized that extensive changes were taking place in vegetative cover and that erosion has been greatly accelerated as the result of human occupation of western lands we have not been able to measure the extent to which virgin conditions have been destroyed. To determine how important this change has been Range Research during the last few years has been collecting evidence of the effects of human occupation upon the soil and vegetation as the basis for proper land management. One of the most intensive projects of this character has been in connection with a study of the browse ranges in Southern Arizona. For several years this project has been the pet of C. K. Cooperrider who has practically lived with it for many months at a time. At a Supervisors' conference held this fall at Roosevelt Lake, Cooperrider reviewed the results of his work to date. It was fascinating to listen to him visualize the climax soil and vegetative conditions by citing vestiges of grassland with occasional shrubs that somehow have escaped destruction, and then to trace with him the gradual breaking down of the perennial grass turf and observe how this allowed the shrubs to occupy more and more of the ground surface; to observe the inability of shrubs to hold the soil against erosion during torrential rains and see how these forces left the ground more sterile and less able to hold moisture and capable of supporting only the more desert-like vegetation. Cooperrider has demonstrated in his enclosures protected against grazing that if the removal of vegetation by grazing is adequately controlled Nature is able to heal the scars and restore normal plant cover in a relatively short period provided the fertile soil has not been too badly depleted. In the latter event a second-rate cover of vegetation may be all that can be maintained. Such a cover, moreover, is incapable of completely checking erosion and is of low value as forage.

It should be understood that the processes herein described are not occurring on the same scale generally over the West. Cooperrider's investigations have been centered in a region where the natural balance is so poised that only a slight disturbance is required to change radically the whole vegetative aspect. But the same results will follow in greater or less degree wherever Nature's balance is disturbed. Generally speaking the optimum cover of vegetation is required on all slopes to hold the soil against abnormal erosion. Conversely the best soil conditions must be maintained to make it possible to conserve the optimum vegetation in a given zone. The fact that a minor disturbance at the headwaters of a drainage basin plays havoc with erosion barriers in the valleys and flood plains below makes it important that even the minor disturbances be avoided everywhere. Because, after all, our business as conservationists is not to plow all tillable land to raise a surplus of crops for this generation, nor to graze all the livestock that the present day stockmen desire to grow, but our primary business is to keep the country young so we can turn over all agricultural resources to succeeding generations in a condition which will enable them to supply a growing population with the essentials to maintain life.

AMERICAN FORESTERS MEET

By John D. Guthrie, R-6

Foresters from all parts of the United States, and from Canada, Mexico, France, Switzerland, England, and Australia met in Washington, D. C., from December 29 to 31. This was the 30th annual meeting of the Society of American Foresters at which there was an actual registration of 325. Among those attending were three of the original seven charter members of the Society - Henry S. Graves, William L. Hall, and Ralph S. Hosmer. The Chief Forester of the United States, a former Chief Forester, three Regional Foresters, and seven former Regional Foresters, seven Directors of Forest Experiment Stations, ten State Foresters, 38 Deans and professors of Forestry, many private, consulting and association foresters, and large numbers of just plain foresters, were in attendance. Every Forest Region was represented except Regions 2 and 8, and every forest school except Oregon State College and the University of Montana.

The program while long had a great wealth and variety of papers covering a wide range of forestry subjects. There were also a birthday banquet, an illustrated lecture evening session, field trips and demonstrations, and many forestry exhibits on display. In addition, excursions and special entertainment features were provided for the ladies.

The program was divided into eight parts, in the order in which it was carried out:

(1) "Private Forestry Enterprises, Their Progress and Accomplishments," with four papers and discussion, W. L. Hall, presiding. (2) "Public Land Policy of the United States," four papers and discussion, H. H. Chapman, presiding. (3) Birthday Party (banquet) Col. Henry S. Graves, toastmaster, talks by foresters from Canada, England, France and Switzerland, and a scholarly address by Raphael Zon. (4) "The Field of the Profession of Forestry," six papers with discussion, S. T. Dana, presiding. (5) Society Affairs - Reports of Standing and Special Committees, and officers of the Society, President Paul G. Redington, presiding. (6) Evening Session "Pictorial Presentation of Recent Developments in Forestry," three addresses (illus-

trated), C. R. Anderson, presiding. (7) Technical Papers, five papers and discussion, Henry Schmitz, presiding. (8) Technical Papers, Field Demonstrations, three papers and field demonstrations of the "Rototiller," tree planting machine, etc., R. S. Hosmer, presiding.

This meeting represented the largest in attendance by technical foresters in the history of the Society. The papers were of a high order of excellence, and there was at times lively discussion, the one fault being that due to the large number of papers, there was insufficient time for a full discussion in some cases. The many interesting and worthwhile papers delivered during the formal sessions and the real pleasure and profit of meeting new foresters and renewing old friendships were probably equally enjoyed by the members.

THAT 1930 RECORD

By R. D. Forbes, Allegheny For. Exp. Sta.

Sandwiched between an account of the latest domestic murder or foreign revolution, and a gloomy picture of business depression and unemployment, the Forest Service press notice about the 1930 fire season is tremendously heartening. Every member of the Service will want to know more about our success - whether the new improvement funds have already borne fruit in shorter hour control, or a renewed spirit of indomitable courage has enabled the field organization to overcome repeated discouragements.

Perhaps at the same time Operation will explain an oddity in the statistics given by the Forester in the Bulletin of December 8. Using the figures for 1930 as a base, we have the following table:

	1930	1929	Average of 1925-29	West 1929
Area burned over	100	500	300	1100
Damage	100	1800	900	2400
Expenditures	100	263	128	300
Size of average fire	100	555	357	-

It is easy to understand why a total burn from 3 to 11 times as great in previous years as in 1930, and an average fire from 3.6 to 5.6 times as large, should have caused us to spend only 1.28 to 3 times as much money previously as this year. The expenditure per acre of burn always decreases with the size of the fire, without causing anyone to advocate "bigger and better" fires; it is the steadily mounting cost per mile of line held as the fire increases in size that reveals the tragedy of big fires. But what puzzles us - who are about to launch a study of fire damage - is why damage per acre should have been about 2 to 4 times as great in previous years as in 1930. Have we learned to shunt our fires out of the good timber into worthless brush, or in our appraisal of damage to burned land have we been overzealous in recognizing the probable recent depreciation in forage and stumpage values?

YE EDITOR DISCOVERS

The first unemployment act was signed by President Hoover on December 20, and on December 29 the Service was authorized to start work on a program involving three million dollars worth of protection and administrative roads and three million dollars worth of forest highways.

- - - - - - -

Representatives of all Regions, except 3 and 9, are holding meetings in the office of Engineering and are busily engaged in discussion of methods of building roads, particularly machinery to be used in building protection and administrative roads. At the meetings, which convened on December 30, will be drawn specifications for all the road machinery to be purchased in all Regions during the calendar year 1931. The pooling of purchases, which will result from this conference, will prevent a recurrence of the acute difficulties in purchase of machinery which occurred last season. Some purchases of road machinery have already been put through in order to start unemployment work at the earliest possible moment.

- - - - - - -

For the first time in New Hampshire a cooperative effort of woodland owners to market their Christmas trees was carried on during the past holiday season. Twenty farmers in the vicinity of Colebrook cooperated to load and ship four carloads of Christmas trees, the marketing experiment being carried out under the direction of C. S. Herr, Extension Forester of Lancaster. From a financial standpoint the venture was entirely satisfactory, the men who sold their trees cooperatively securing an increase in price of about 20 per cent. About 7,200 individual trees were marketed. Balsam fir made up the bulk of the trees although some spruce was included. Every effort was made to see that the very best trees obtainable were shipped.

Each tree was tagged with a bright red tag, on which was printed the message: "Greetings from the White Mountains. This tree brings a Christmas message from the great outdoors. Its cutting was not destructive, but gave needed room for neighboring trees to grow faster and better."

- - - - - - -

"Some Indirect Returns from the Forests" will be commented upon by Assistant Forester L. F. Kneipp in the Farm and Home Hour program of the National Broadcasting Company on January 14. Kneipp's carefully chosen words will be carried over 39 stations of the NBC radio network starting at 12:54 p. m. eastern time.

- - - - - - -

This season of the year always brings many field men into the Washington office. The presence of these men is noticeable by an atmosphere of much ado, and many a solemn conference. Among the new faces is that of John D. Guthrie, in charge PR in Region 6. He will spend the next month on detail to the Division of Information. On the way east Guthrie spent a week in the Lake States and before returning to Portland will make a short trip through the eastern and southern States.

V. L. Harper of the Southern Forest Experiment Station is in on detail to the office of Forest Measurements for several months. He will be engaged in working out correlation of resin yield from slash and longleaf pines with the environmental factors, a project on which he has been engaged for several years at Starke, Florida.

J. W. Girard of the Forest Survey organization is in Washington and plans sometime during this month to start survey work in the Mississippi hardwood region.

F. S. Renner of the Intermountain Forest and Range Experiment Station will spend about two months in the office of Range Research. His main projects will be in connection with the grazing bibliography and the analysis of erosion survey data collected in the past two years on the Boise Forest.

Others who are in for shorter details are: Regional Forester Show, E. I. Kotok of the California Experiment Station, J. D. Sinclair of the Southern Experiment Station, and Raphael Zon of the Lake States Experiment Station.

About 40 members of the Service outside of Washington attended the annual meeting of the Society of American Foresters, December 29-31 at Wardman Park Hotel, and a good many of them visited the Washington office, giving us the opportunity of seeing a number of old friends.

NARROW ESCAPE FROM BROWN BEAR

By M. L. Merritt, R-8

While cruising through an open stand of Alaska cedar on November 3, 1930, Forest Supervisor R. A. Zeller of the Tongass National Forest was attacked by two brown bears, one of which he shot and stopped only after it had approached within eleven feet. Following are extracts of his statement of the circumstances:

"I was going on a light game trail on a rather open slope of Alaska cedar and hemlock with a covering of huckleberry brush and dense streaks and patches of cedar reproduction. While quartering up this slope at 9:30 a.m. into the light air which was drawing out of the northwest and at an elevation of about 500 feet above sea level, I passed about fifty feet easterly of two brown bear bedded down in the margin of a patch of dense cedar reproduction. Rounding the base of a 20 inch cedar about 25 feet higher than the bears' bed ground, I first heard the rather light noises made by the bear, now on their feet milling about and sifting the air. They were quartering toward me, apparently doubtful of my exact location. They heard and saw me first when I stepped from around the cedar tree and as I turned upon hearing and seeing them. They marked me down cold, and ceasing their random movements, without any preliminaries other than loud snorts, straightened out immediately and started up the slope directly at me, one about four feet ahead and slightly to the right of the other."

"I was in huckleberry brush shoulder high but could see their broad backs and heads as they alternately rose and fell in their course up the brushy slope. Being in an unfavorable position because of the difficulty of handling a rifle in stiff brush, I hastily located a spot about twelve feet up the slope and lost no time in occupying it. By the time I had reached this point and had turned facing the charging animals, they had covered the distance to within sixteen feet of me to a point where there was a narrow shelf or break extending horizontally around the slope, the last animal just disappearing under this break. They angled to their right and were momentarily out of my sight when the lead animal with a rush, came around the base of the cedar tree referred to at a distance of about twenty feet from where I stood. With loud snorts, ears laid closely to its head and with champing jaws, it covered the ground with amazing speed. Being forced to accept the situation which gave the animal the advantage of the brush and unconsciously suppressing the great desire to shoot until I could be as certain as was humanly possible of not having the projectile deflected by the brush, I took what I considered to be the first opportunity for an effective shot, which was when the bear, at a distance of eleven feet, emerged from the huckleberry brush where I had been standing when I first discovered the animals. The single shot stopped the bear in its tracks, but from the prone position, in a split second, and in a fit of speed, rage, and pain, it flung itself upward so viciously that it lost its balance and fell diagonally down the slope. The instant that the animal swerved from its path of charge and rolled down the slope I concentrated my attention upon the second bear. It was just emerging from the downhill side of the cedar tree, and at a shot, swung at a sharp angle and ran diagonally down the slope. The second animal ance and its actions read by this. The first animal was found dead or eet down the slope. The various distances were measured after the event was over."

"I estimated the weight of the female bear killed at 900 pounds."

"With ample opportunity to have made their escape, the facts here show that entirely without provocation and wholly upon their own initiative, the brown bears deliberately chose to attack."

Foresters will remember that a year and a few days prior to this incident, Junior Forester John A. Thayer of the Tongass force was attacked and killed by a brown bear under remarkably similar circumstances, except that in that case Thayer's shot failed to stop the animal.

RESULT OF AIR EXPRESS FIRE COOPERATION IN 1930

By M. H. Davis, Angeles

A recent tabulation of the reports sent in by pilots of the Western Air Express, Inc., brought out the following facts:

State fires reported to Pasadena office	12
Angeles Forest	4
Cleveland Forest	2
San Bernardino Forest	1
Santa Barbara Forest	3
Ventura County	2
Total	24 fires

As a result of an agreement with Herbert Hoover, Jr., chief engineer of the above company, the pilots were instructed to report all fires.

In making these reports the pilots invariably gave pertinent information as to wind direction, size of fire, type of cover, elevation, size, etc., and the interest of the pilots was evidenced by the fact that very few fires occurred within a reasonable distance of a transport route that were not picked up by these men. On several occasions, the dispatcher at Pasadena would hold the telephone while the radio operator at the Alhambra base would secure additional data direct from the plane.

In addition to the above tabulation of fires, reports were made to the Regional office from the base at Oakland of fires located in the central part of the State, and also to the Cleveland office for fires located in the southern end of the State.

While this cooperation was more or less in an experimental state this year, it is believed that the results were of decided value and certainly point out the possibilities of speeded action through the use of radio. As air transportation expands, radio communication is further developed and planes become more numerous, is it not possible that this form of cooperation will become a real factor in reduced detection and report time? - From R-5 Bulletin

- - - - - - -

Without fresh air, sunlight, the sweet odors of the woods, the spring of the turf, the hardening of the muscles from climbing the hills, the alertness of the eye and ear developed by the training of woodcraft, the perfection of digestion, the soundness of sleep from honest fatigue - without your full share of these you cannot live so happily nor so long. - Senator Royal S. Copeland

- - - - - - -

Fifty seven men, women, and children became lost during the past summer in the National Forests of Oregon and Washington.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 3 Washington, D. C. January 19, 1931

NOT IN THE WORK PLAN

By J. N. LANGWORTHY, Shoshone

Across the river through the spruce trees, we could see the lights of the ranch winking at us. The night was inky black with an overcast sky and a cold breeze blowing. There, just across the river was warmth and comfort and a welcome awaiting us.

Earlier in the evening, farther upstream, we had made a successful crossing. Our clothing was still wet from the swim, and I had forded at this point but a week before. The new Ranger and I had no misgivings as our horses stepped into the water. He rode ahead leading a pack horse. The first hundred yards was through a willow bottom flooded with water. Occasionally we struck a deep channel and I remarked that I had never seen the water so high.

A few spruces stood where the river bank usually was and when we reached this point I told the Ranger to wait there until I rode ahead and tried the crossing. My horse, a powerful, young animal but lacking in experience, at the first step went off into water half way up his sides. At the next step, he struck a submerged log or something upon which he stood with his front feet. I gently urged him on with a slight pressure of my legs and we were caught in the mad whirl of the main channel. We spun around and my horse made a futile attempt to regain the bank. He headed upstream and a great wave threw him over backward. I kicked my feet free of the stirrups and dove off, my thought being to get away from the excited horse.

When I rose to the surface I had been carried forty feet below my horse. My first reaction was how good the water felt around my shoulders. I took a few strokes and then realized that it was utterly useless to attempt to regain the shore from which I came.

I have heard that under similar circumstances all one's life passes before him in review, but nothing like that happened to me. Out in midstream I remembered that there was a long gravel bar and below that a sharp point where the current whipped around and crossed to the other side. I must make the bar. I must not miss it and go around the point. Death was around the point.

In one hand I had a mailing tube of work plans. These I threw toward some willows but they fell into the water. I also discarded my water-soaked hat. I started to swim with a fast, strong stroke. Although I was weighted down with chaps, boots, spurs, stag shirt and a gun, I had no trouble in keeping afloat. I was soon out of the rough water. I began to tire and wondered how deep the swiftly flowing current I was then in really was. I let my feet down and touched bottom but the water was up to my neck and was carrying me downstream at a great rate. I swam on until I was very weary. I let my feet down and tried to stand. The water was only waist deep but the current was so swift that it was impossible for me to hold my footing. Again I struck out, and at last I struck the gravel with my hand and crawled on the bottom until I was out of the current. With a real feeling of thanksgiving I dragged myself on to the bar.

It was under a foot of water. I laid in this, resting. I could see the indistinct form of my horse a hundred feet above me. He had also made the bar and was resting. Far up the river I heard the Ranger call. I answered, rose to my feet, and splashed along the bar to my horse. My foot was so heavy I could not raise it to the stirrup. I lifted it with my hands, placed it in the stirrup, and pulled myself into the saddle. I rode up the bar until I was opposite the Ranger and called to him to stay where he was until I sent help to guide him across.

My arrival at the ranch threw it into a state of excitement. A man rode to guide the Ranger across by a new ford. A hot bath and a change of clothes, which I luckily had in the pack, stopped my shivering before I shook anything loose and within an hour after my swim I was smoking my pipe in front of the fireplace listening to jokes and tales of adventure. I had succeeded in reaching warmth and comfort and a hearty welcome.

GAME CONFERENCE

By C. E. Rachford, Washington

The Seventeenth American Game Conference was held at New York on December 1 and 2 under the auspices of the American Game Protective Association. Over 200 representatives of State Game Departments, sportsmen's organizations, game breeders, Federal Bureaus, and individuals from nearly every State were in attendance.

One of the most important matters coming before the Association was the Committee report on an American game policy. The report is one of the most comprehensive statements ever made on the game situation in the United States, the problems involved, and the manner in which they should be attacked. The program of action recommended is as follows:

"1. Extend public ownership and management of game lands just as far and as fast as land prices and available funds permit. Such extensions must often be for forestry, watershed, and recreation, as well as for game purposes.

"2. Recognize the landowner as the custodian of public game on all other land, protect him from the irresponsible shooter, and compensate him for putting his land in productive condition. Compensate him either publicly or privately, with either cash, service, or protection, for the use of his land and for his labor, on condition that he preserves the game seed and otherwise safeguards the public interest. In short, make game management a partnership enterprise to which the landholder, the sportsman, and the public each contribute appropriate services, and from which each derive appropriate rewards.

"3. Experiment to determine in each State the merits and demerits of various ways of bringing the three parties into productive relationship with each other. Encourage the adoption of all ways which promise to result in game management. Let the alternative ways compete for the use of the land, subjecting them to public regulation if this becomes necessary.

"4. Train men for skillful game administration, management, and fact-finding. Make game a profession like forestry, agriculture, and other forms of applied biology.

"5. Find facts on what to do on the land to make game abundant.

"6. Recognize the non-shooting protectionist and the scientist as sharing with sportsmen and landowners the responsibility for conservation of wild life as a whole. Insist on a joint conservation program, jointly formulated and jointly financed.

"7. Provide funds. Insist on public funds from general taxation for all betterments serving wild life as a whole. Let the sportsmen pay for all betterments serving game alone. Seek private funds to help carry the cost of education and research.

"It is imperative that these seven basic actions be no further delayed by debates among sportsmen as to which of the alternative forms of relationship with landowners should be adopted to the exclusion of the others, or by futile attempts to manage game without the landowner's cooperation, or to hunt it without his consent.

"Relations with landowners must of course be adapted to local customs and conditions before they can be put into local operation. This is the task of local agencies, and it is a bigger and more important task than writing this policy."

The above program contemplates that game management on any particular tract of land can be practiced only by its owner or occupant. It is a somewhat revolutionary principle, and as applied to National Forest lands imposes the responsibility on the Forest Service of the management of the game resource. Under existing circumstances and policies the Forest Service develops plans of management on specific areas and then works out their application through cooperation with State officials. Granted that this is a slow and tedious process, it does have the advantage of combining the resources of Federal and State agencies and developing a better spirit of cooperation all along the line. As applied to farm lands or other privately owned land the program gives full consideration to property rights and proposes methods by which the interests of private owners in game propagation can be developed.

As might be expected the policy was both lauded and criticized, but finally passed by a substantial majority of those voting. To an interested bystander it seemed that the discussion represented the points of view of four distinct classes:

(a) The commercial game breeder, who believes the lawful sale of game in this country is indispensable to the full development of the resource.

(b) The absolute protectionist, who believes in a plentiful supply of game for aesthetic or scientific reasons.

(c) Those who believe in taking when and where found.

(d) The conservationist, who believes in the proper form of land management to insure sustained yield of crops to which the land is adapted, game being one of the crops that might supplement other crops being raised on farm lands or a major crop on non-tillable wild lands.

The report is a valuable contribution to the whole subject of wild life administration, and should be studied by all those interested in the question.

The place of research in wild life administration was emphasized under the able leadership of Dr. Arthur A. Allen, Professor of Ornithology, Cornell University. The projects now under way in the different States and Regions were summarized and discussed. It is understood a complete resume will be included in the proceedings of the conference.

The Bureau of the Biological Survey was represented by its chief, Paul G. Redington, and by Dr. W. B. Bell.

At the dinner on the evening of December 2 the Forester gave an interesting account of the problems involved in game administration on the National Forests, the ideals of the Forest Service, and the manner in which the solution of problems is being approached.

PORTO RICO

Chaulmoogra, an Asian tree from which is produced chaulmoogra oil, the most effective remedy for leprosy yet discovered, grows well in Porto Rico, and small seedlings are in demand in neighboring countries, according to William P. Kramer, Supervisor of the Luquillo National Forest, who recently spent a short detail at the Washington headquarters of Region 7.

The first chaulmoogra trees were planted by the United States Forest Service in Porto Rico a few years ago, in one corner of the small leper colony at Trujillo Alto. The seed was brought from Siam and the East Indian Islands by the Bureau of Plant Industry. The young trees have thrived remarkably, and promise to make Porto Rico not only an important nursery center but also a future source of the healing oil. As much as $10 each is paid for the seedlings, some of which have been transported by steamer to Caribbean ports and thence inland by airplane.

Although Porto Rico has many valuable native hardwood trees, it is obliged to import most of its building material, largely pine, from the United States. Plantations of Australian pine and also of the Bayahonda tree, a native hardwood of Santo Domingo, are doing well on the insular forests. Both of these woods are hard, but not so hard as some of the native Porto Rican woods, into some of which an ordinary nail can not be driven.

Ausubo wood from the Luquillo National Forest is at present in best demand and brings $200 per thousand board feet. It is very hard, and needs to be, for it is largely employed in making wheels for bullock carts. It is also a valuable construction timber, but too hard and difficult to work for cabinet making.

After supervising the growing of various trees in the island forests for ten years, Mr. Kramer concludes it is probably better for the Porto Ricans to supply outside market demands for fine cabinet woods and to buy in exchange a large part of their material for house construction.

The insular forests, in which Porto Ricans take great pride, are composed of about 20,000 acres of lowlands in mangrove trees and about 23,000 acres of uplands, where much of the planting is to Australian pine. The man grove lowlands produce fence stakes and fuel wood largely used for charcoal. In the upland forests the insular service is growing fuel wood on 7 to 10-year rotations.

Australian pine production is about 5 cords per acre per year. These pines grow fast, some of them are 30 feet high and 4 inches in diameter at 3 years of age. To the Australians this tree is known as "beefwood." To the Porto Rican, who takes readily to forestry, the imported tree is simply "pino." - R. E. M.

THE FEDERAL EMPLOYEE'S UNION

By Fred Morrell, Washington

All members of the Forest Service may not be satisfied with their present incomes or conditions of employment, but all must agree that the present relation of salaries to cost of living is much more favorable than it was a decade ago. Retirement legislation and some other conditions of employment have been markedly improved.

Probably no one who has been in position to observe the workings of things in Washington questions that the employees, themselves, through the Union have been a major if not the major influence in bringing these changes about. Certainly the officers of the Union have been diligent in advancing all legislation considered to be in the interest of the Federal employees and equally diligent in opposing that which was considered undesirable.

Viewed from the standpoint of Federal employees perhaps no greater compliment could be paid the officers of the Union than the recent statement by a member of Congress to the effect that it was they who were causing him most difficulty in his efforts to delay the carrying out of the field reclassification act.

Only a minor percentage of people any longer question the right and justice of employees organizing in an effort to secure what they regard as equitable conditions of employment. In the case of Federal employees scattered throughout the United States, and engaged in almost every conceivable class of work, it is only fair to Congress that they be represented by some one who can express the wishes of the majority. This is being done by the officers of the Union, perhaps not always to the satisfaction of all of us but certainly to the best of their knowledge and ability.

There can be no question that investments by Federal employees through Union membership dues have been returned to them many times over, and there is a continuing need for representation that will be effective in expressing the organized interests of Federal employees. It is easy to let such matters drift without action, but no one should do that who believes in the principle of cooperative effort, particularly since those who do not assist, profit from the Union just as much as do those who through membership lend their influence and financial support.

ABSTRACT OF RESOLUTIONS ADOPTED BY SOCIETY OF AMERICAN FORESTERS

Resolutions adopted by the Society of American Foresters at its thirtieth annual meeting held in Washington December 29-31 included the following important matters:

That the State legislatures be urged to make available emergency funds for use on State-owned forest lands for the provision of additional fire lines, pruning and thinning of plantations, reforesting, and such other forestry work as would give employment to a large number of unemployed working men.

That the Society of American Foresters go on record as being strongly in favor of recent legislation authorizing the establishment of a foreign agricultural service under which it would be possible to send a forester abroad to keep in touch with European developments, as an aid in the upbuilding of American forestry.

That an adequate program be provided for a comprehensive national research program on erosion control and streamflow regulation on forest and range lands, through the addition of an appropriate section to the McSweeney-McNary Forest Research Act.

That the Society urge upon Congress the necessity for increases in Federal appropriations for extermination of the gypsy moth.

That the Society express its approval of the preservation of a representative primitive area of the Florida Everglades as a National Park, under certain provisions, for forest research, the advancement of biological science, and for education.

That the Society urge upon suitable officials of the Federal Department of Agriculture the adoption of ways and means which will insure prompt publication of results of forest research and especially of progress reports, since the availability of such results has a bearing of great importance on the rate and character of the development of forest practice in the United States.

That the Society urge the enactment of Federal legislation that will afford a definite legal status as "Indian Forests" for all unallotted lands within Indian Reservations that may be found to be primarily adapted to the production of forest crops, needed for purposes of water conservation, or essentially contributory to the prevention of soil erosion.

That the Society urge upon Congress, the States, and private owners the necessity for such appropriations as will make possible immediate and adequate steps to control the white pine blister rust which has invaded the western white pine forests of Montana, Idaho, and Washington and the sugar pine region of southern Oregon, and threatens the large sugar pine stands of California. The Society believes that liberal appropriations for this purpose would be doubly valuable at this time in that they would give employment to large numbers of men out of work.

That the Society go on record as being strongly in favor of sending to the Chairman of the President's Public Domain Commission a copy of the paper prepared by State Forester Morrill of Colorado, giving a summary of the views of many Western State officials, foresters, and others on the proper disposition of the unreserved public domain.

YE EDITOR DISCOVERS

The latest entry in the primitive area program has been made by Region 4 with its Idaho primitive area which embraces 1,087,000 acres of land, of which all but about 8,000 acres is in Government ownership. It embraces parts of the Payette, Idaho, Salmon, and Challis Forests and is sure enough primitive, containing no roads whatever and very little in the way of settlement or development. Supervisor Scribner's report on the area reads like a best seller and is illustrated by some excellent photographs, including, among others, pictures of Senator Borah and Governor Baldridge busily engaged in dragging impressible sized trout out of the streams or in traversing hair-raising trails.

Newspaper accounts indicate that the mining interests are somewhat dubious about the proposal but that all other interests are quite enthusiastically in favor of it. The report is now running the gauntlet of the Branches in the Washington office and its ultimate future therefore is still uncertain.

- - - - - - -

In the first act for unemployment relief three million dollars was appropriated for development of roads and trails. Only two and one half million dollars of this amount has been allotted to the Regions because three and one half million dollars had become established as a tentative maximum of the unemployment appropriations for the Forest Service and it was desired to balance the acceleration of road and trail work with an increase in improvement construction and other work. Developments now justify the Service in authorizing the expenditure of the unobligated $500,000 out of the three million included in the first unemployment act. Estimates are now being secured in order that such authorizations may be issued. Preference will be given to Regions which include areas where unemployment is most acute, particularly Regions 7 and 9. Purchase of road machinery is now favored as a means of stimulating employment in industrial sections which are often far removed from any National Forest.

- - - - - - -

The Minister of Lands and Forests, Ontario, Canada, recently announced that a sum of $80,000 would be spent by the Ontario Government on slash burning as one measure of unemployment relief. This slash burning measure has been approved by Ottawa and is being launched with a view to safeguarding against further loss by fire the outlying settlements and great timber areas of the North.

- - - - - - -

The meeting of road men is progressing splendidly. Regional differences in preference for different types of machinery are being adjusted and specifications are being drawn for consolidated purchase of a large amount of road machinery. The progress that the Service has made in the technique of using modern machinery in road building, coupled with the increased money available and the adequate supply of machinery, will undoubtedly mean the accomplishment during 1931 of notable results in making the National Forests accessible for fire control.

- - - - - - -

One of the recommendations of the Washington conference of Regional Foresters last year was that a standing committee representing the administrative and research organizations consider revision of the Service-wide fire forms and records. Loveridge, with the assistance of Regional Forester Show and Kotok of the California Forest Experiment Station, is now engaged in furthering this work, which was started at a meeting of the committee in San Francisco in November. Brundage of Region 6 and Stockdale of Region 1 are the other members of the committee.

- - - - - - -

The Appalachian Forest Experiment Station and the Pisgah National Forest have moved into their new quarters in the Federal Building at Asheville, North Carolina. This building designed to take care of the Forest Service needs of five years ago is already congested because of growth of activities in the intervening period. Most of the second floor is taken up by forestry activities including not only these two mentioned units but also the Biological Survey, the Office of Forest Pathology, and the Office of Forest Entomology.

- - - - - - -

V. A. Clements who has been in Washington in the Section of Forest Measurements for the past two and one half years has now been transferred to the California Forest Experiment Station, where he will assist Dunning in his silvicultural studies of reproduction and growth in the Sierra forests.

SELLING THE PRODUCT

By F. V. Horton, R. 6

Out here on the Pacific Coast where the lumber industry pays over half our industrial payroll, when someone asks us what is wrong with the lumber industry, we usually answer, "overproduction" and get away with it. We should know more than that. Overproduction is not the whole story.

If a dairy owner should just bottle his product and set it out alongside the barn and leave it there without attempting to sell it there would be an overproduction insofar as his own plant is concerned. So with the lumber business. Just cutting boards will surely result in overproduction unless there is some means provided for selling the product. Some demand for lumber exists. This is now below production. This demand may be stimulated or even a new demand created.

I talked with a banker lately and he is a "big town" banker. He said that during the past two years his bank had lost more money on the lumber industry than on any other two lines of business. He also said that his bank had traced a shipment of lumber from Portland, Oregon, to an eastern seaport. Here are the facts as nearly as I can recall them. The lumber cost on board the ship $20. The freight to an eastern port was $9.75. The lumber was sold through brokers at $22.25, and when followed out to a construction job brought $64. Maybe I'm wrong but the spread from $22.25 to $64.00 looks too wide to me. I believe that demand would be stimulated if there was a smaller spread. The consumer could buy cheaper and still give the producer a fair profit but it would mean a better system of marketing. Cooperation is the catchword and the lumberman of the West is nothing if not an individualist.

ARE WE GROWING FORMAL?

Ranger District -A- and Ranger District -B- adjoin each other for many miles. The dividing line, however, is both a State and a Regional boundary. Ranger A discovers on his district several head of Bar X cows not under permit. They may have drifted over from District B, or they may be additional stock from the outside. In any event they are in trespass, and the owner thereof ignores the demand for payment of the trespass charges.

Under the direct procedure of the old and uncouth days Ranger A would have contacted Ranger B and said: "Say, Bill, I have 3 Bar X cows on my district without permit. Are they a drift from your district, or extra stock from the outside? "Bill would help solve the problem. Later Ranger A would say: "Bill, that Bar X fellow has refused to settle that trespass of his; the case is hardly big enough to go to court with, and it looks to me as though the only play left open to us is to deny him a permit on your district until he settles up." Appreciative of his brother Ranger's problem, Bill probably would advise his Supervisor of the circumstances and recommend appropriate action. Also appreciative of his brother Supervisor's dilemma, Supervisor B would advise Mr. Bar X that unless he settled up his outstanding obligations to Uncle Sam because of the trespass he was mighty apt to be persona non grata the next grazing season.

But in these more efficient days we proceed as follows: Ranger A reports to Supervisor A, who reports to Regional Forester A, who writes to Regional Forester B, who writes to Supervisor B, who takes it up with Ranger B, who advises Supervisor B, who reports to Regional Forester B, who advises Regional Forester A, who in turn communicates with Supervisor A, who takes the matter up with Ranger A, who reports to Supervisor A, who passes the case along to Regional Forester A. As to the remainder of the procedure, that is at present on the knees of the gods, and the number of further references required is yet to be determined. -L.F.K.

GAS FROM TREES

By R. K. Day, Central States For. Exp. Sta.

The data contained in Mr. Woods' article in the Service Bulletin of December 1, check closely with similar observations of the presence of gas in white and red oak in Maryland. In every case, however, the trees containing the gas were mature or overmature and showed distinct evidence of internal decay. One white oak 106 years old produced sufficient gas to burn for about two minutes. The flame was practically colorless and odorless. A hissing sound had been noted in several of the trees previously bored but they did not have sufficient gas to ignite. All of the trees were of sprout origin following a clear cutting operation for charcoal at the Principio Furnace. Following this experience a toy balloon was carried in the hope of collecting some of the gas for analysis but the opportunity has not since occurred.

Recently Kellogg of the Central States Forest Experiment Station reported finding gas in the pith of obviously sound black walnut in plantations. McCarthy reports the finding by himself and Frothingham of a similar gas in yellow poplar on the Pisgah National Forest and a discovery by Averill and McCarthy of another instance in scarlet oak south of Ashland, Kentucky. In both cases the trees were fire scarred and diseased.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 4 Washington, D. C. January 26, 1931

A LOOK AHEAD IN FORESTRY

(Extracts from Henry S. Graves' Address at the 1930 Annual Meeting of the Society of American Foresters)

The forest is a product of natural forces operating through many years. It may take a long time for the effects of abuse to be clearly manifest. In like manner forest rehabilitation is a slow process. The very character of the problem of forestry requires us to look ahead and to plan far into the future, conscious that the actual results of our efforts at a given time may not come to full fruition until some distant period. We have been engaged in changing the point of view of a nation. This has involved the enlightenment of the public in regard to the significance and need of conservation, the removal of prejudices based on long tradition, the presentation of concrete measures that are feasible in practice, and the demonstration of the soundness of our proposals.

One of the striking features of the evolution of the profession of forestry has been the broadening of the conception of our functions and responsibilities. I doubt whether those who framed the law of June 4, 1897, for the administration of the federal forest reserves had any conception of the many services that would be rendered by these public properties in addition to watershed protection and timber production. Yet there have developed scores of such services which are of vital economic and industrial significance. The task of forestry is to obtain from the natural resources in our charge all the values, utilities, and human benefits that are inherent in them. We are engaged in an immense economic undertaking. All the varied problems involved in securing the highest permanent service of the forest fall within our interests. We cannot escape them, if we would. Grazing, recreation, wild life conservation, articulation of forestry with agriculture, and water conservation and development are all our problems, as well as those relating directly to growing and utilizing trees.

I look to a very material expansion of public forestry within the next ten years. Numerous factors seem to me to justify this prediction. First of all there are several problems of capital importance which, I believe, will soon force a demand for public action. Several examples will suffice to make my point. Thus the reversion of land for tax delinquency in many sections of the country, which promises to reach large proportions, is presenting to the States and Counties unforeseen and very acute problems of land utilization and public finance. Forestry under public action will play an important part in meeting the situation. Thousands of local communities will be obliged to come to grips with a forestry problem which touches the basis of their industrial prosperity. The effect of this circumstance on the forestry undertaking as a whole is difficult to foretell. Certainly it will be very far-reaching.

A second problem is that of conserving waters and controlling their flow, which is assuming such proportions in various parts of the country that we may expect a new challenge from the public to show what contribution forestry can make in preventing water wastage and other injuries.

A third circumstance is the growing appreciation of the public loss caused by the present wasteful liquidation of some of our basic natural resources under the uneconomic conditions of the industries engaged in their exploitation. Personally I believe that public action is essential to ameliorate the present situation. Whatever form such action may take it will introduce new elements affecting both public and private activities in forestry.

Still another feature touching public forestry is the tremendous sweep of the forces behind the recreation movement. Recreation has passed beyond the realm of sentiment and is assuming economic proportions of large magnitude. In forestry it provides a demand for well handled public reservations and it introduces many new and important factors in their management. It does much more, for it opens avenues of transportation and in many sections it is a vital factor in making economic forestry possible.

Further, I anticipate that there will be a new step forward in the near future in fire protection. A superficial examination of the aggregate figures in the national statistical tables does not reveal what is really being accomplished. Failures have been largely due to the inadequacy of funds for equipment, for improvements, and for organized man power. The demand by the public for better fire prevention will increase. Doubtless the demand will in some cases be expressed as criticism of the forest officers of the Government and the States, when the chief fault lies with the public for not granting sufficient means. We are reaching the point where it is possible to point out precisely what is needed to make forest property relatively secure from fire.

The next few years are likely to determine how far private and corporate enterprise is competent and willing, under the conditions and policies now governing their activities, to handle constructively the forest resources for which they are responsible. Meantime some progress in private forestry is being made. There is undoubtedly an increasing dissatisfaction on the part of the general public with the slow progress of private forestry.

One of the most potent forces behind this movement of private forestry is the profession itself, with men studying the problems underlying successful practice and accumulating experience that is equipping them to direct the work on individual properties. Aside from any influences that may accrue from public forest activities, the progress of private forestry is pretty largely dependent on the competence of the foresters in handling this aspect of applied forestry. As an educator I am interested in this problem, for the schools have the task of building up a body of men who will possess the knowledge, ingenuity, skill, and persistence essential to open up and develop the field of private forestry.

I think that all of us like to look upon forestry as comparable with other learned professions, such as engineering, law, medicine, etc. Yet we must acknowledge that as yet we have not established that position in the estimation of many of our colleagues in other professional branches. Some do not regard forestry as a clearly defined profession but rather as an aggregation of occupations.

The explanation of the existence of such views lies first of all in the fact that we are still in the creative stage of building up the science and art of forestry in this country. The character of the work of the professional forester should not be judged by some phase of woods practice but rather by the problems of those who are doing the creative work of organizing and directing forestry enterprises. The foresters are the architects of a great scientific and economic structure, not alone the draftsmen and artisans. The problems with which we must deal call for men of the first rank in intellectual power and personal qualifications and an education that in quality measures up to that of other comparable professional branches.

The happiest circumstance is that many men are achieving eminence for their professional attainments, winning recognition as administrators, as technical experts, as educators, as productive scholars. The distinctive place occupied by a given profession depends on the character of work performed by its members.

As I look to the future of our profession I am convinced that the work in all the branches of forestry will become increasingly exacting from the standpoint of technical knowledge and proficiency. I hope that there will be an insistence upon the part of the profession in no uncertain terms that standards of training be placed on a basis of unquestioned quality and effectiveness.

We are building not for today alone but for tomorrow. The profession already exerts an influence and power in the nation. Its opportunities are almost unmeasured. The future of forestry depends upon the younger men in the profession and those who will join our ranks from year to year. Let us in this generation lay firm foundations for their work and provide them with a power and understanding that will enable them to meet the changing conditions and new problems with courage, intelligence and skill. We can leave no greater heritage.

HISTORICAL RECORDS BEING KEPT BY MODOC FOREST

By W. S. Brown, Modoc

The excellent story of B. F. Heintzleman in the December 15- 22 issue of the Service Bulletin contains food for thought for many Forest officers in Western Continental United States.

Between 1840 and 1875 probably the greatest drama in United States history took place, involving the conquest of the Great West and marking one of the greatest shifts of population in the world's history. Year after year, the long emigrant trains rolled their way across the Western plains and mountains, their slow, painful progress contested at all points by the race whose hunting grounds they usurped.

There are still with us a few, very few, of the old timers who travelled the long trail to California or Oregon, and, being the backwoodsmen and pioneers that they are, you will usually find these old people spending their declining days close to our National Forest areas in the sections where they first built their humble log cabin homes. One also finds many spots within or adjacent to the National Forests on which some long forgotten drama of the Overland Trail, or one of its numerous branches, was enacted.

The Modoc Forest had many such spots - the locations and story of which are in some cases now forever lost because we did not realize soon enough their great value to posterity. Forest officers here, however, have been instrumental in salvaging, as it were, many of these places and, with the assistance of the Regional office, in having them suitably marked. As a further historical record, one member of the force whose mind runs to such things has started a "Place Names" record, which is being gradually built up as time affords and information is secured. This record is typed on standard 4 x 6 cards—a single card for each name. The cards are filed alphabetically and contain an explanation of the derivation of the name and a brief description of any historical association connected with the locality in question.

The following are the data appearing on one such card:

BLOODY POINT

A promotory on the east shore of old Tule Lake which was a favorite camping place for early emigrant trains. Many Indian atrocities were committed here, the chief of which occurred in 1850 when over 90 persons, men, women and children in a single emigrant train were butchered, only one man, badly wounded, escaping to the Oregon settlements. The following year a repetition of this massacre was narrowly averted by the timely arrival of Oregon volunteers who rescued a large party which was gradually weakening under Indian attack. Many human bones, the remains of slaughtered pioneers, have been plowed up on farm lands in the vicinity.

PROFESSIONAL REFORESTATION

By Fred Morrell, Washington

Recently I read in a book written by a well known explorer and naturalist an incident of a goat which while the author's back was turned for an hour or so completely devoured some twenty birds which had been taken for collection purposes.

Such casual observations as I had made and what I had learned from the writings of such naturalists as Hugh Wiley had led me to understand that goats are quite cosmopolitan in their diet, but I had never heard of one raiding the hen house, nor could I recall that Lily had ever gone so far as to beat Wild Cat to his Thanksgiving turkey. Here, however, was the statement of an eminent scientist who, unless my sense of humor was sadly deficient, was speaking seriously.

In my present necessity of reviewing a great many things that are written about forestry by foresters of the Forest Service, and foresters at large, I come upon a rather large number of statements that jolt my credulity as did the one cited above, and which frequently leave me wondering whether I am reading words of wisdom from a real scientist who can back his statements with cold hard facts, or whether the gentleman through his desire to make an impression is deluding himself and me as to what his data prove.

It would not do to use an illustration from the writings of a member of the Forest Service (although there are plenty of them), so I select one from among the outsiders. I read in a publication that claims to represent a piece of serious research work, and seems to me in many ways to justify the claim, that 90% of the several millions of acres of woodlands in a certain State will have disappeared in not to exceed 25 years unless present practices as to fire and grazing are very radically changed. I ride a great many miles over the State, and observe as carefully as I can the condition of these woodlands, and come away with exceedingly strong doubts as to the author's prediction. Thus his publication loses greatly in my confidence. It seemed to me that like the explorer he was consciously or unconsciously prompted by the desire to make an impressive statement, and he thereby became not a scientist but a propagandist.

All of us have heard men tell things in confidence which they say they would not repeat publicly because, although they are true, they would not risk their reputations for veracity by putting them to that test. Sometimes I wonder whether foresters are as careful as they should be of their reputations.

"PINCHOT'S PAL GOES TO FETE"

A News Item

"In the good old days when Gifford Pinchot was head of the Forest Service, 20 years ago, and was the leading member of President Roosevelt's tennis cabinet, he struck a fast friendship with the young messenger who officiated at his outer door.

"This messenger was Joe Santucci, now a printer in the Forest Service, living in Oak Terrace, Brookland. The old friendship has never been broken and next Tuesday Santucci will journey to Harrisburg, Pa., as an honor guest to see his old chief inaugurated as Governor of Pennsylvania.

"The bond between the two men was shown in an incident in Albuquerque, New Mexico, in 1908.

"Abandoning a banquet given in his honor by citizens of New Mexico, Gifford Pinchot, chief of the Bureau of Forestry, hastened to the home of Joseph B. Santucci, formerly head messenger of the Bureau, whose wife was believed to be dying.

"Mr. and Mrs. Santucci had been living in Albuquerque, New Mexico, having arrived there from Ogden, Utah. Because of the illness of his wife, Mr. Santucci had been transferred to the western station, the head of the department quickly granting his request.

"When Mr. Pinchot reached the Territory and was preparing to attend the banquet in his honor he learned of the sorrow in the home of his friend. Dispatching a messenger to the waiting diners, he hastened to extend his sympathy to Mr. Santucci.

"Great disappointment was expressed at the banquet when Mr. Pinchot failed to put in an appearance. But when the cause of his absence was learned, the affair proceeded with added feeling in the speechmaking. The speakers were inspired to greater respect for the man who had placed friendship before the gratification of personal pleasure."

ANOTHER FOREIGNER BECOMING NATURALIZED?

By L. S. Gross, R. 7

For many years, whenever anyone mentioned the planting of spruce in Eastern United States it was understood that he meant Norway spruce. European foresters had studied the species and found that it could be handled easily in the nursery and under favorable conditions made rapid growth after field planting. Our native spruces under natural conditions have not enjoyed a similar reputation. Norway spruce seed and nursery stock were available at reasonable cost, but neither seed nor nursery stock of our own spruces were. It is not strange then that Norway spruce was the species ordinarily used. Some plantations succeeded, some failed. Enemies of the species became apparent; for example, the white pine weevil seems to relish Norway spruce just about as much as he does the tree whose name he bears.

It was natural that foresters should begin to view the picture from the more gloomy side. During recent years, we have heard that the tree grows rapidly only in early growth, goes to pieces at an early age, is not frost-hardy, will not reestablish itself naturally in this country, and in general is of little value for forest planting.

But the pendulum still swings. Witness the following:

1. The Forest Products Laboratory Progress Record for June 1930 contains a brief statement on the pulping value of this species:

"Evaluation and pulping tests on Norway spruces from a planted stand in northwestern Wisconsin show that this species is comparable with white spruce in all respects excepting yield per cord. The wood was investigated because of its extremely rapid growth rate and the resultant possibility of its reproduction for pulping purposes in connection with the planting program of a large Wisconsin pulp company. Tests were made on both dominant and suppressed types of trees. The weight per cubic foot (green volume) was found to be 21 pounds as compared with an average of 24 pounds or more for white spruce, but the pulping qualities of the Norway spruce were equal to those of Canadian white or black spruce."

2. The Lake States' Experiment Station 1929 Annual Report states:

"There can be no doubt that Norway spruce would have advantages over the native white spruce for pulpwood plantations, because of the much more rapid growth of the former in youth. Two important forestry agencies are contemplating the extensive use of Norway spruce in northern Wisconsin. It is known, however, that many of the forms of this species do not prove hardy under our most severe conditions, almost annual injury to the tips occurring in some instances, at least while young. It remains to be seen, then, whether or not the characteristic of rapid growth can be retained when a truly hardy and satisfactory form is found. The Station expects to go into this question through the collection of seed from collaborators abroad and from some of the most satisfactory of the older plantations in the region."

3. Recently two examples of natural reproduction from planted stands of this species in New York were reported. (a) Prof. R. C. Hawley found reproduction on a grassy slope adjacent to a grove of planted Norway spruce near Fishkill, New York. (b) Mr. J. A. Cope reports plentiful Norway spruce reproduction established under a mixed stand of Norway spruce, Scotch pine, and white pine in the Axton plantations in the Adirondacks established in 1901.

It begins to look as though Picea excelsa had taken out naturalization papers.

YE EDITOR DISCOVERS

An example of the keen competition that obtains at the present time in the business world was recently brought out in connection with the purchasing of equipment for the Forest Service road construction program for the relief of unemployment. Bids were circulated for rock drills. It seems that the manufacturers of these drills have an agreement as to the price they should ask for them. One company, realizing that all bids would be the same in price and that time of delivery was the important factor of the purchase, shipped rock drills to the points of use listed in the proposal. When the bids came in, all manufacturers had quoted the same price, and, with the exception of this company, all had specified a 24-hour delivery. This company, however, specified a 2-hour delivery, and got the bid.

- - - - - - -

The soil erosion station at Guthrie, Oklahoma, is carrying on some investigations of the effect of a wood cover upon erosion and run-off. Doctor McCall of the Bureau of Chemistry and Soils reported before the House Appropriations Committee as follows:

"In connection with studies designed to determine the relation existing between uneroded soil - as nature builds soil - and the eroded condition brought about by breaking down the natural conditions, it was found that only 250 gallons per acre of water ran off eroded land with a light cover of leaf litter during a rainy spell in May, this year, as against a run-off of 27,600 gallons per acre from land of the same kind, slope, and tree cover, where the leaf litter had been burned off.

- - - - - - -

Plans are now being drawn up for a proposed Federal office building to be erected in Portland, Oregon. Space has been requested in this new building to the extent of approximately 9,000 feet for the use of the Pacific Northwest Forest Experiment Station. On the same floor with the Experiment Station the Department plans to place other cooperating forest agencies.

- - - - - - -

Announcements have been made of examinations to be given for the positions of Junior Forester and Junior Range Examiner. Applications for the former must be received not later than February 24, 1931, and for the latter March 10, 1931. This will mean that the examinations will be held on March 11 and March 25, respectively.

- - - - - - -

A game management meeting was held on the Pisgah Forest January 13-16, attended by representatives of the Biological Survey, State game officials, and local and other Forest officers. R. R. Hill, of the Branch of Range Management, and I. T. Yarnall of Region 7 represented the Washington office. The purpose of the meeting was to discuss and develop plans, policies, etc. of game management, and the program included a number of field studies and some demonstrational work on trapping of predatory animals by the Biological Survey.

- - - - - - -

The Department is releasing three new forestry motion picture films - "The Unburned Woods," "Forest Fires or Game?" and "How Forests Serve." Members of the Washington office who were treated to a preview at the Motion Picture Laboratory recently are enthusiastic in their praise of the excellent photography and educational value of these pictures.

- - - - - - -

Frank J. Cool, Chief Draftsman in Region 1, is in Washington for a six weeks' detail to the Branch of Engineering.

- - - - - - -

Professor Burt P. Kirkland of the University of Washington has accepted a position with the Forest Service in Economic Research. Professor Kirkland, who is now employed on a part time basis, will complete the school year at Seattle, taking up his duties permanently with the Forest Service late next spring.

- - - - - - -

Seth E. Gordon, for several years conservation director for the Izaak Walton League of America, has been elected President of the American Game Protective Association, succeeding the late Carlos Avery. Mr. Gordon was previously Executive Secretary of the Pennsylvania Board of Game Commissioners.

EARLY FORESTRY LAWS OF PENNSYLVANIA

By H. F. Morey, Allegheny For. Exp. Sta.

The Annual Report of the Pennsylvania Department of Agriculture for 1895 gave some very interesting information regarding early forestry of the State. As early as 1700 two acts were passed prohibiting the removal of trees. One of these acts was against "felling, removing, etc, any tree less than ten pounds." The other act was "against felling trees on another's land without leave. Penalty, forfeiture of five pounds to owner, for each black walnut tree; other timber, fifty shillings each tree; and for fire or underwood, double the value thereof."

If the act of April 15, 1732, were still in force, Philadelphia's streets would be treeless. According to this law, the "trees growing in the public streets, lanes and alleys of the said city of Philadelphia, do obstruct the prospect and passage through the same, and also disturb and disorder the water courses and footways, by the extending and increase of the roots thereof, and must tend to spread fires, when any break out within the said city:" The commissioners were to remove all trees in the streets, alleys, and lanes of the city, and a fine of ten pounds was the penalty for obstructing the commissioners in their performance of this duty.

It seems as if the act of April 15, 1782, was not favored by the citizens of Philadelphia for, "a considerable number of the inhabitants of the city of Philadelphia have, by their petition, set forth that trees planted in the streets thereof conduce much to the health of the inhabitants, and are in other respects of great public utility": This petition caused the act of September 20, 1782, which repealed the act of April 15, 1782.

RANGE COOPERATION

By Arnold Arneson, Rainier

The following letter certainly makes one feel that his efforts have not been in vain and that if the public can see where it is of benefit to them they will come through 100 per cent.

The letter was written by Mr. Tom Smith, a grazing permittee, to his packer and herder and he is checking up on them to see that they are complying with his requests.

"Dear Sir: As you are entering the Rainier Forest Reserve for the summer and have your instructions from our Forest Supervisor, Mr. E. J. Fenby, of Tacoma, will ask you both to cooperate with Forest officers and be very careful of fires. Do not smoke on the trails or any place where there is danger of fires. After lightning storms go to some high point and look around and in case of fire if you cannot handle it yourself get word to the nearest Forest Station.

"Bed your sheep out at night and be careful of over-grazing any portion of the range. Any part of the range that looks over-grazed keep the sheep off this year and let it go to seed. You will find by doing this it will go to seed and build up the range, and we cannot run sheep without the Forest Reserve."

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 5 Washington, D. C. February 2, 1931

OUTSTANDING ACCOMPLISHMENTS - 1930

FOREST MANAGEMENT

By E. E. Carter

It is difficult to draw clear lines between the accomplishments of the Branch, as part of the Washington office functioning for and by direct delegation of authority from the Forester, and the accomplishments in the Regions where the actual physical work is done, sales made, etc. For example, one of the major accomplishments of the Service in timber matters in 1930 has been the demonstration of the marketability of spruce pulpwood in the Rocky Mountain Region through offering and awarding the large sales on the Rio Grande and San Juan Forests in Region 2. That Region can and should claim this as an accomplishment on its part. The Branch of Forest Management participated, however, by defining the policies for such sales; by providing allotments, based on recognition of the importance of the project, for the necessary timber survey work; by reviewing and constructively revising the sample contract and other terms of sale; by aiding in the negotiations with the applicant for those offerings; and by functioning in connection with the appeal to the Secretary from the decision of the Regional Forester to award the sales to the highest bidder. A somewhat similar division of accomplishment occurred in connection with the application of well-established timber disposal policies on the Coconino Forest in Region 3 and in other cases.

Accomplishments primarily by the Washington office include:

1. The efforts made to obtain the enactment of the Knutson-Vandenberg Act. The program of authorizations in that act represents failure rather than accomplishment, since those authorizations are, in fact, limitations - with the F. Y. 1932, appropriations for planting increased only $25,000. But the broadening of authority to use planting appropriations and the the authority to use deposits by timber sale purchasers for planting and/or for silvicultural improvement work on sale areas are steps forward. The publicity and educational effort, also, may help in later efforts to get adequate authorization.

2. Policies and standards in Timber Management Plan work have been clarified, and the sustained yield policy has become more firmly intrenched. This has been done not only through the approval of specific Management Plans (Regional or Forest accomplishments) but also by the attitude and action taken in various specific cases - the application of the Edward Hines Lumber Company for an increased cut on the Silvies Working Circle, Malheur National Forest, for example.

3. The policies in insect and disease control work have been clarified, cooperative relationships with the research organizations in these fields in other Bureaus have been strengthened, and efforts made to obtain adequate funds for field work and to allot them to the field organizations for use on the most urgent projects. An emergency appropriation of $170,000 for insect control work in Region 1 and Region 4 was obtained. The Regions concerned can claim accomplishments, and in most cases very gratifying accomplishments, in the form of work on the ground. The Branch of Management may properly claim some accomplishment in the gradual spread of recognition among Forest Service personnel of the importance of pest control as the result of continued effort to inform and encourage that personnel in pest matters.

4. Policies in planting work, in R-7 and R-9 especially, were clarified, standards strengthened, and more definite programs approved. Accomplishments by the Regions in nursery development and in planting specific acreages will be reported by the Regions during the next month.

5. The further spread of the "tree measurement" method of handling small sales in the Regions represents progress in response to the advocacy of this procedure by Washington "S" for several years.

LANDS

By L. F. Kneipp

Boundaries:

As in the program of work, Boundary Adjustments demanded primary attention during the year. On June 3, the Chairman of the Commission on the Conservation and Administration of the Public Domain requested the Forester to supply the Commission detailed information regarding the remaining public lands, chiefly valuable for timber production and watershed protection, plus such supplemental information as was obtainable regarding the remaining public lands and their apparent administrative requirements. This work was organized on a scale second only to the work of Land Classification, with the result that on December 10 the Commission received 11 folios of detailed reports which discussed almost the entire area of unreserved land and, according to the comments of individual members of the Commission, far surpassed in detail and informational value the other data made available to the Commission, and were favorably commented upon in the initial draft of the Commission's report. These reports define every area of public land desirable of addition to the National Forests and afford a complete basis for such final adjustment of National Forest boundaries as may be dictated by administrative policy and Congressional action. While minor changes may subsequently be desirable, the Boundary Adjustment projects may be regarded as substantially completed.

Land Exchanges:

While no specific drive was made for the further development of Land Exchange plans, it is known that this project is receiving current attention in the Regional and Forest offices as current needs require and that the Exchange plans are subject to progressive development. Some difficult problems of land and young growth evaluation were solved in the Black Hills and Harney Forests by the adoption of definite schedules of appraisal, and studies leading to a similar end in North Idaho and Montana were initiated during the year. The actual work of acquisition through exchange made excellent progress. A great deal of educational work was accomplished; principles and procedures were improved; the technique of examination, appraisal, negotiation, and consummation was smoothed out, and the requirements of the work are now being very satisfactorily met by all Regional and Forest organizations. In many States, the maximum volume of exchange business allowable under existing limitations upon the use of stumpage in exchanges is now being consummated, and the decline in timber-sale receipts may may compel some curtailment in the exchange activities. During the year, 149 cases were consummated, the offered lands amounting to 155,128 acres valued at $831,413, for which were granted 94,443 acres of National Forest land valued at $210,890, and stumpage valued at $460,831. Cases approved by the Secretary of Agriculture numbered 156, the offered lands aggregated 301,030 acres valued at $1,097,815, while the granted lands totaled 30,842 acres valued at $243,026, and selected stumpage worth $580,651. To date the cases consummated total 691; the offered lands 935,580 acres, valued at $4,144,396; the selected lands 330,589 acres valued at $1,500,578; and the selected stumpage appraised at $2,125,346.

During the year an area of approximately 80,000 acres in the Routt National Forest was designated, examined, cruised, and appraised with a view to its selection by the State of Colorado in exchange for the surveyed lands in State ownership scattered throughout the Natioaal Forests. The State's final acceptance of this tract has not been reported, but all circumstances indicate that an exchange advantageous to both the State and the Federal Government will soon be consummated. The constitutional amendment necessary as a prerequisite to an exchange with the State of New Mexico again failed of approval, hence such an exchange is still impossible. In Minnesota a similar constitutional amendment failed to receive approval. Nevada has no appreciable area of State lands within the National Forests and neither Arizona nor Utah shows any disposition to consider exchanges. In Michigan, a sixth exchange with the State, involving tax-delinquent lands, was well under way at the close of the year.

Nothing much was done in the matter of special studies of Forests within or near which large holdings of private lands are intermixed with National Forest lands, with a view to special exchange plans whereby ownerships may be consolidated. The general reluctance of members of the Forest Service to relinquish through exchange lands of high timber productivity or value militates against this form of exchange, although it should in many instances result in economics of both private and public operation and possibly stimulate the practice of private forestry.

Acquisition:

There is nothing much to report with reference to Acquisition project number 1: "Cooperation with State Forestry Departments and Office of Experiment Stations in development of adequate and definite programs of forest purchases in eastern States." The consent of State forest officials to all purchase areas submitted for approval by the Commission was, of course secured, but there was no systematic analysis of the forest and economic conditions in each State in conjunction with the agencies named, with a view to developing the most mutually acceptable state-wide system of National Forest purchase areas. The principal involved is, however, sound and should be applied as soon as practicable.

During the year, Region 9 made careful studies of the forested portions of Minnesota and Wisconsin with a view to determining the best locations for the areas remaining to be selected. Eight acreas were covered by detailed and valuable reports. Similar studies and reports were made by Region 7 with reference to the areas submitted to the Commission for approval.

Region 9 devoted considerable thought to the review and revision of existing bases of land and timber appraisal and thus has developed what appears to be a satisfactory schedule of soil and stumpage values for each purchase area. The subject is also under consideration by Region 7, but the study has not been carried to final conclusions. Many Forests in Region 7 are still using soil values established before or during the war and post-war periods of high prices and their reconsideration in the light of prevailing values is urgently desirable.

Nothing was done with reference to the series of regional conferences on Acquisition programs contemplated by Acquisition project number 4, due to the demands of the Public Domain study, but the principal involved is a good one which should be applied as soon as practicable.

One notable event of the year was the consideration by Congress of legislation authorizing further appropriations for Acquisition work. Hearings were held by the House Committee on Agriculture on February 3, 4, and 10 at which it was possible to present in detail the entire eastern forest situation in its relation to the Acquisition program of the Federal Government. The sentiment of the Committee obviously was strongly favorable to adequate financial provision for Acquisition work, but in deference to the financial program of the administration the Bill as finally enacted authorized appropriations of not to exceed $3,000,000 for the fiscal year 1932 and not to exceed $3,000,000 for the fiscal year 1933.

The National Forest Reservation Commission held two meetings during the year, at which it approved the purchase of 882 tracts of land, totaling 679,818 acres, at a cost of $1,877,782.17; and authorized the establishment of 5 new purchase areas: the Cumberland in Kentucky; the Homochitto in Mississippi; the Kiamichi in Oklahoma; the Evangeline in Louisiana, and the Mesaba in Minnesota, the latter replacing the St. Croix which was abolished because of the impracticability of consummating purchases on account of bonded debts and delinquent taxes. The year's activities of the Commission notably advanced the consolidation of Federal holdings in many of the Purchase Areas and thus facilitated the work of protection, administration, and development.

Recreation:

During the year considerable attention was given to the development of recreational plans in Regions 1 and 2, many campground and summer home projects being examined in the field. Both of these Regions are giving careful thought to the betterment of their recreational plans. The progress in the other Regions was not specifically determined but is believed to be wholly satisfactory, as all Regions now appreciate the importance of this activity. Preliminary steps towards a systematic analysis of all phases of recreation work and definition of principles and procedure to govern its development were initiated through the medium of circular letters. The report of the Mount Hood Committee published as Senate Bulletin 164, was widely distributed throughout the Service and to many cooperators.

Little new progress can be reported with reference to Recreation Project No. 2; "Extension of Cooperation in the improvement of Recreation Utilities." Conditions apparently are not favorable to the assumption by State, County, or private agencies of substantially larger shares of the cost of developing and maintaining recreational facilities on National Forest lands.

Because of the pendency of public domain legislation, the Norbeck bill regarding mining claims, etc., no effort was made to urge legislation permitting the President to withdraw lands chiefly valuable for public recreation.

Several of the Regions, during the year, completed or initiated specialized plans for the development and management of areas of outstanding recreational value. This work has received particular attention in Regions 2, 3, 5 and 6, but projects in other Regions also received attention. The Service has now completed a large number of such plans to the highest point attainable by the available personnel, but many areas are of such outstanding scenic and recreational quality and public interest that the present plans must eventually be succeeded by others of higher technical perfection and greater intensity.

There was no systematic initiation of the projected study of the place of nature education, educational exhibits, nature trails, guide service, etc., in National Forest administration, but this activity demands attention and will be featured in a forthcoming restatement of the recreational program.

Classification:

Notwithstanding the extreme economic depression there was relatively little demand for the listing of Forest Homesteads. The recall of earlier erroneous listings continued throughout the year and the Land Classification of the National Forests has been brought substantially into accord with present knowledge of actual potentialities of agricultural use.

During the year Regulation L-20 was further modified so as to authorize the special designation not only of Research Reserves which were renamed Natural Areas, but of Experimental Forests as well. The processes of selecting such areas and perfecting plans for their subsequent management were well under way, but no areas were specifically designated during the year.

The study of Primitive Areas progressed during the year and four such areas in Region 6 were specifically designated by the Forester. In Region 5, 15 areas have been defined and covered by reports which, however, have not yet been finally approved. In the other Regions the selection of Primitive Areas is receiving careful attention, with the probability that within another year the entire system of such areas will have been established by formal action of the Forester.

Special Uses:

Following conferences with representatives of the Western Association of Highway Commissioners, Reg. L-7 was amended to provide rights-of-way two chains in width for roads of Classes 1 and 2, and one chain in width for roads of Class 3, with special provision for controlling the occupancy of the lands so dedicated. Some of the Regions administratively established even wider limits, and for some of the more important roads special plans were prepared while in other instances authority to authorize occupancy of roadside lands was reserved by the Regional Office. At a later meeting of the Western Association of Highway Commissioners, a resolution advocating substantially wider rights-of-way was adopted and was made the subject of circular letters to all Regions, whose detailed comments thereon will afford the basis for a final determination of policy in the near future.

During the year bills, S. 4166 and H. R. 11637, were introduced to increase to 160 acres the areas for which term special-use permits could be issued, but neither bill has been reported out in Congress. The present term permit law is inadequate to meet the growing requirements of special-use development. Otherwise, the objectives of Special Use Project No. 2 received continuing attention in the various Regions in connection with the revision and elaboration of the Regional Lands handbooks or Manuals, and considerable progress was made in the equalization of special use charges and in securing more uniform conditions and requirements between various Forests in the same Regions. In several Regions the members of the Offices of Accounts have aided appreciably by noting and recording special conditions or departures from normal in the course of their administrative audits of Forest offices.

Coordination of National Forest and National Park Extensions:

Congress in 1930 passed bills authorizing additions of National Forest lands to the Yellowstone, Lassen, Yosemite, Rocky Mountain, and Bryce Canyon National Parks; the Forest Service having participated in the study of each project. A bill to transfer lands from the

Rainier National Forest to the Mount Rainier National Park also was introduced in December. Further studies were made of proposed additions to the Yellowstone, Sequoia, and Grand Canyon National Parks.

Claims:

Claims work, other than mining claims, occurred in only the normally declining volume during the year. Mining claims, as usual, presented the most complicated problems but in possibly less aggravated degree than in earlier years. In a case involving the right of a mining locator to fence a large area of National Forest land in the Coronado Forest, Judge Sawtelle of Arizona rendered a decision distinctly favorable to the Government.

Senator Norbeck's bill, S. 3774, to amend the mining laws applicable to South Dakota passed the Senate April 14, 1930, but was still pending before the House Committee of Mines and Mining at the close of the year. Meanwhile several new bills relating to the subject were introduced by Representative Swing of California, viz. H. R. 11785 and H. R. 11976, which would withdraw the San Bernardino National Forest from mineral entry; H. R. 13547 which would prevent the entry of lands covered by special-use permits; and H. R. 14448, which would impose penalties upon the location or use of mining claims for purposes other than mining. Because of the pendency of the public domain question it has seemed inadvisable to press aggressively for modifications of the mining laws until the general land policies have been better defined.

RANGE MANAGEMENT

By C. E. Rachford

Believe it or not, the Branch of Range Management like so many ranger districts has been analyzed, and we have plans. In reviewing accomplishments of the Branch for 1930, therefore, it seems appropriate that the chief follow the time-honored requirements for Rangers and report according to prescribed form. Let it be understood that this analysis was made in 1928 by one Joseph Kircher, now Regional Forester of Region 7; and let it be further understood that the plans resulting from that analysis have been adjusted, elaborated, changed, etc., as unforeseen or new work justified.

In view of the difficulty of expressing actual accomplishments on the more or less intangible phases of the work, and to avoid any impression that we are claiming credit actually belonging to the men in the field, it seems desirable to follow Mr. Kircher's analysis on a functional basis. He discusses nine functions of the Branch, including 59 main jobs, most of which are recurrent although he does not use that term. Space will not permit enumerating all of the jobs under each function. It will be necessary, therefore, to resort to generalization, dealing with only the more important jobs under each.

1. Formulating and clarifying policies for certain phases of the grazing on National Forests.

The review of the excellent Regional and Forest reports for the previous year permitted general instructions and suggestions on policy relating to allowances, seasons, nonuse, term permits, distribution of grazing privileges, fees, trespass, range improvements, and range management plans. In respect to the reports from the field we inaugurated for the first time the plan of not requiring annual Forest reports in this office. This innovation places more responsibility on Regional offices, encourages more complete analysis by the Region, and eliminates a lot of routine detail in this office.

A review of the five-year fish and game reports has made possible the development of better cooperation with interested agencies and clarified some troublesome questions, which will assist materially in the formulation of a final policy.

In the field of cooperation we may mention the submission of a very complete report to the Bureau of the Biological Survey on predatory animals and rodents. This report has been used before congressional committees, commented upon favorably by the Biological Survey and others, and we hope will result in better protection of Forest lands.

Data furnished by the field have enabled us to give a clear conception of our recreation problem, formulate a plan of action, and secure the approval of the Bureau of Fisheries on a preliminary program for the study and restocking of out streams. The main importance of this program lies in the fact that the Bureau of Fisheries accepts responsibility for technical advice, planting and fish cultural work on National Forests, which relieves the Forest Service of the necessity of developing a trained personnel to meet the problem.

Cooperation with the Bureau of Animal Industry and other interested agencies has resulted in the formulation of a tentative program on diseases and parasites of game animals.

The regular routine work of cooperation has been supplemented by the review of several manuscripts ready for publication.

Preliminary to the development of a more concrete plan of control of poisonous plants and noxious weeds, several conferences have been held with the Bureau of Plant Industry and the Bureau of Animal Industry.

Contact with outside organizations such as the Elk Commission, American Game Protective Association, and Izaak Walton League has been maintained and, we hope, improved. The Branch also participated in some field conferences with State Fish and Game Commissions and other organizations. For the first time in a number of years there has been no representative of this office at the annual meetings of the two national livestock associations. This has been due to a variety of causes, but the Service has been ably represented by the Regional office in the State in which the meetings have been held.

Kircher says "Inspection - field work, all of which is grouped under this job of inspection, is not entirely inspection in the true sense of the word. It combines with inspection, supervision, training, cooperation, and extension. It contributes toward all the jobs which Range Management does."

Functions 2, 3, and 4, as defined by Kircher, deal with aiding the field in the solution of knotty problems; correlating policies, standards, and desirable practices among Regions; and training both self and field. These are some of the intangibles, and I can only hope that through our inspection and contact with field officers they have received as much benefit from our suggestions and advice as we have from their helpful and cooperative attitude.

Our inspection work has enabled us to get a broader view of the complex problems of watershed protection, erosion, game range in relation to that of domestic livestock; has, we hope, developed the weaknesses of management plans derived through reconnaissance and in other ways; and secured more uniformity among Regions. Mention may be made especially of the work done on administrative studies, the development of standards of utilization, and the more or less critical analyses of specific problems in the field.

5. Encouraging range and game management on private, State, and Federal lands outside the National Forests, and the dissemination of knowledge on range and game management.

Aside from taking advantage of every opportunity to encourage private and State interests in better range management, the Branch has assisted Lands and the Regions in the securing and preparation of the data presented to the Public Land Commission. This job was unforeseen and required quite a lot of time not set up in the original program, but afforded an excellent opportunity to become more familiar with an important problem and, it is felt, resulted in the most illuminating picture of the job assigned to the Public Land Commission.

6. Cooperating with the Forester and other Branches in a more efficient administration of the National Forests.

This is another intangible. Accomplishments can probably best be stated by the Forester.

7. Reviewing for approval by the Forester certain appeal and trespass cases.

Four important appeal and six trespass cases were handled during the year. Other than to record that the Forester's recommendations were approved in all cases, the principal credit should go to the field for the assumption of increased responsibility and adjustment of conflicts. This is a case where accomplishment is measured not by volume of work but by reduction in volume.

8. Recommending appropriations and legislation to the Forester, and distributing funds to the Regions.

In the final analysis accomplishments under this heading should be gauged by increased appropriations necessary to meet urgent demand for the securing of legislation to facilitate range administration, or the prevention of legislation inimical to National Forest interests. As to increased appropriations, in which this Branch had a small part, the recent statement of the Forester with regard to 1932 appropriations seems the best answer.

Commendable progress was made during the past year in the construction of range improvements, with an expenditure of approximately $200,000. Several of our more critical situations have been controlled and real progress made in improving both Forest and range conditions. We have not felt the need for additional legislation, and our efforts to combat such bills as were before the last session of Congress were apparently successful. At least the bills have not been enacted into law.

9. Action on certain reports from the field. In addition to reviewing and acting upon various reports from the field it is believed the main accomplishment has been more in the nature of determining what reports are actually needed, and simplifying procedure. We have endeavored to make decentralization an accomplished fact. From present indications field officers are competent and capable of taking on routine processes. This automatically makes it possible for the Branch of Range Management to devote its attention to more constructive and broader problems.

WHY RESEARCH ON TROPICAL WOODS?

By Arthur Koehler, Forest Products Laboratory

Forbes' "Why Borrow Trouble?" in the Service Bulletin for November 10 needs reply. Here are three reasons why we should show active interest in tropical woods:

1. At the present rate of cutting and destruction by fire and insects our remaining stand of virgin hardwoods will last only about 28 years, based on best estimates to date. The high-grade hardwoods will disappear first leaving the poorer stuff to the last. Second growth can not be counted on to supply by that time, the quality of lumber that is needed for veneer logs, furniture, finish, and other similar high-grade uses, even if the volume could be supplied under intensive forestry, which is questionable. Private forestry, at least, will not be able to supply much large, clear, second-growth hardwood with a high percentage of heartwood. For handles, railroad ties, piling, pulp, and other uses for which small logs are satisfactory, second-growth hardwoods may possibly be grown in sufficient quantity and of suitable quality under forest management.

2. To keep many of our wood-using industries going, therefore, demands a supply of high-grade hardwoods from some extraneous source. If these are not supplied, whole industries will go over to substitutes thereby knocking the bottom out of certain markets for

native woods also.

For every thousand board feet of high-grade logs brought into the country several thousand board feet of lower-grade native woods can be used for core stock, hidden parts, crating, etc.

3. Foreign woods are coming in in increasing quantities. From 1922 to 1928 the square footage of veneer and plywood **imported** increased about 900 per cent. Foreign as well as native woods should give the best possible service or the public will lose in paying for poor material, and wood in general will get a blacker eye -- and another argument will be won for substitutes.

The salvation of forestry and the lumber industry lies not in limiting the supply of wood but in keeping wood in the market and increasing its uses.

YE EDITOR DISCOVERS

Included in the first deficiency bill is the sum of $533,800 for insect control, Alaska boats, nursery development in Wisconsin, range improvements, and miscellaneous improvements at Experiment Stations. Prospects seem favorable for the appropriation of this sum, which in recent planning has been referred to as the second unemployment appropriation. If this amount is appropriated and the Agricultural Act is passed as now worded, unemployment appropriations in which the Forest Service is concerned will consist of the following:

Development roads and trails .... (Involves a reduction of $420,800 in the regular 1932 improvement roads and trails item)	$3,000,000
Included in regular Agricultural Appropriation Bill, to be made immediately available upon passage of the act, - blister rust control, sanitation and fire prevention, and miscellaneous improvements........	579,200
For insect control, improvements, etc., in first deficiency bill........	533,800

- - - - - - - -

The following item is quoted from the Duluth News Tribune of November 11, 1930.

"Drummond, Wis., Nov. 10. - Cutting the last load of logs Saturday, the Rust-Owen Lumber Company terminated a 50-year operation at Drummond. More than 2,000,000,000 feet of pine and hardwood have been cut since the mill was erected. Workmen tied the mill whistle today and let it blow until the last pound of steam left the boiler. Drummond cannot fall back upon agriculture the way other lumber towns have done in the past, because the delinquent tax situation makes it economically unwise to blast out stumps in new farm territory in northern Wisconsin. The future of Drummond's 700 citizens depends entirely on the development of recreational assets, it is predicted by the town officers."

- - - - - - - -

The Santa Barbara Grant in Taos County, New Mexico, comprising approximately 24,000 acres of timberland, is to be shortly added to the Carson National Forest. Negotiations between the Forest Service and the owners, the Santa Barbara Tie & Pole Company, extending over a period of years, resulted in an agreement some weeks ago and on December 20 the Secretary of Agriculture approved the transaction.

- - - - - - - -

Supervisor John C. Kuhns of the Whitman National Forest left Baker, Oregon, on January 9 for a six weeks' lecture tour, covering schools of forestry in the Middle West, Northeast, and East. The program includes five talks at each of the following schools of forestry, in the order given: University of Minnesota, St. Paul, Minn.; Iowa State College, Ames, Iowa; Michigan State College, East Lansing, Mich.; University of Michigan, Ann Arbor, Mich.; Purdue University, LaFayette, Ind.; University of New Hampshire, Durham, N. H.; University of Maine, Orono, Maine; Connecticut Agricultural College, Storrs, Conn.; Yale University, New Haven, Conn.; Syracuse University, Syracuse, N. Y.; Cornell University, Ithaca, N. Y.; and Penn State College, State College, Pa.

- - - - - - - - -

"GOVERNOR PINCHOT'S INAUGURATION"

By Joseph Santucci, Washington

I arrived in Harrisburg, Pa., on the twentieth of January, 1931, at 2 a.m. I was somewhat disappointed in not securing a room. The Hotels were crowded and no rooms available. I decided to remain at the depot until daybreak.

Around 8 o'clock, a.m., I pulled out to call on the Governor. I arrived at the Mansion about 8:30, rather early to call on the Governor, but I rang the bell, the guide seemed somewhat put back at such an early caller. He said, "If you want to see the Governor you are too early, besides you will have to see his Secretary, before you can see him."

I was somewhat put back, being tired and cold. I wanted to get in the Mansion and see the Governor.

This is what I said, "If Governor Pinchot knew Joe Santucci was at the door you would let me in".

Just then Governor Pinchot came in the hall and saw me, he said, "Hello, Joe, come on in. I am delighted to see you."

And I want to say this came from his heart. I then had the pleasure of shaking Mrs. Pinchot's hand, who greeted me with her charming personality and friendship. The Governor excused himself, as he was working on his speech, and told me to make myself at home. (This is just like him.) Well, I waited for qiite awhile and decided to leave, as I knew the Governor was very busy and I did not want to take up his time. Then his Secretary came in and I told him I would return.

He said, "Joe, the Governor is very busy and if you could call later." But then he said, "Wait a minute." When he returned the Governor was with him and Governor Pinchot said, "Joe, I am sorry I kept you waiting so long. I was working on my speech."

We talked for a few minutes then he said, "Joe, be here for the reception."

I then proceeded to the Capitol where I got in my reserved seat in the stand for the Inauguration. After Governor Pinchot finished his speech I rushed up and grasped his hand to congratulate him on his speech.

This is what the Governor said, "Joe, how was that speech?"

I said, "Governor, it was great."

He said, "That's fine."

I arrived at the Mansion about 2:30, had luncheon-and at reception, I had to be in style, so I put on my Tuxedo. It was one continuous round of pleasant introduction to the prominent officials and friends of the Governor and Mrs. Pinchot.

I was introduced as "Joe". I sure spent one wonderful time at the mansion and was treated as one of the family.

When I left to return to Washington I was presented with a fine bunch of flowers for Mrs. Santucci.

I shall always remember this date, January 20, 1931, as one of the happiest days of my life. And I told the Governor his next inauguration I'd attend will be as President of the United States, at Washington, D. C.

"I will sign off."

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
> Theodore Roosevelt

Vol. XV No. 6 Washington, D. C. February 9, 1931

OUTSTANDING ACCOMPLISHMENTS - 1930

RESEARCH

By E. H. Clapp

Regulation L-20, approved August 7, 1930, providing for the establishment within the National Forests of a comprehensive system of experimental forests and ranges and of natural areas marks a new epoch in the forest research work of this country. The purpose of these forests and ranges is to make permanently available for silvicultural, range, products, and other related forest research representative areas adequate to meet current and foreseeable needs. The regulation provides also for the establishment of natural areas to preserve permanently and in an unmodified condition areas representative of the virgin growth of each forest or range type within each region.

Most of the experimental forests and ranges will vary from 1,000 to 5,000 acres Probably 5 to 10 such forests will be required within each of the forest regions specified in the McSweeney Act. For natural areas 1,000 acres is regarded as a practicable minimum. This regulation should stimulate progress in establishing this system of forests and areas, to which much thought has been given for several years. About 10 experimental forests are already recognized.

The principle of coordinated regional research in silviculture, range, and other fields was extended by the formal organization of the Intermountain and the Southwestern Forest and Range Experiment Stations, with headquarters at Ogden and Tucson, respectively. This action was contemporaneous with provisions for expansion in range, erosion, and silvicultural studies.

Assurance of a new and adequate Forest Products Laboratory at Madison, Wis., is of outstanding significance to future successful products research. An initial appropriation of $100,000 and necessary authority, to be followed later by the remaining $800,000 authorized, enabled the Secretary of Agriculture to approve a contract with a carefully selected architectural firm for the preparation of plans and supervision of construction work, which will start early in 1931. Preliminary plans have been completed and the selected site donated by the University of Wisconsin.

Water is becoming the most important and the most valuable crop of forest and range lands in many parts of the country, even exceeding timber and forage. It is the very foundation of the economic structure and prosperity of the arid West. Throughout the United States regulated streamflow is essential for navigation, for maximum power production, and for the amelioration of destructive floods.

Public programs for flood control, improvement of navigation, etc., are being planned without due regard for the possible function of forest and forage cover in relation to streamflow and erosion. Knowledge is urgently needed which will permit the management of forest and range lands, with full recognition of their functions of water production and erosion and streamflow control, while at the same time allowing timber cutting and forage use. Upon request of the Senate Committee, a national program of erosion-streamflow investigations on forest and range lands was submitted, which would call for an annual appropriation of $500,000 to be reached within the next few years. The annual meeting of the Society of American Foresters, in recognition of the critical needs, passed a resolution urging that an adequate program be provided through the addition of an appropriate section to the McSweeney Act.

Notable was provision for new work in fire research, included in the Branch increases of some $278,000. Entrance into redwood silviculture, a study of ways and means of extending private forestry, and expansion of the Forest Survey were also among the more important provisions. Naturally the Branch has its full share of growing pains incident to expanding personnel and organization.

Division of Silvics

Fire research has contributed to protection practices a method of measuring protection needs on an individual forest type and unit basis. This method has been used in the allocation of protection funds for the National Forests and can be used by other protective agencies. Continued analysis of California fire records revealed that the hour control needed would be 3/4 hour for the more inflammable forest types, two hours for Douglas fir, and four for the sugar pine and fir types.

Fires in mixed hardwood stands do not wound all species to the same degree. Yellow poplar is apparently seldom fire-scarred, while scarlet and some of the other oaks are badly damaged. Six degrees of forest fire hazard based on the analysis of 5 years' weather and fuel records were determined for the northeastern spruce-hardwoods type. Separate hazard tables were prepared for cut-over lands, where the fuels respond more quickly to weather changes.

The discovery has been made that a litter cover can be built up under protected, well-stocked southern pine stands which will greatly improve the soil tilth and fertility. Annual fires in these stands contribute to the spread of grass and reduction of site through lowered organic content, which makes for decreased water-holding capacity. Perennial and herbaceous plants are eliminated. In the Appalachian hardwoods fires exert their chief effect upon the soil through the removal of litter, which paves the way for erosion. California erosion studies show the run-off from burned plots to be from 100 to 400 times that from unburned plots and erosion to be a thousand times greater when the cover has been removed.

Yield studies show that pure western white pine stands tend to have higher yields than the mixed stands, because the former tend to grow on the better sites. Reserved stands of western white pine grow from 30 to 50 per cent faster in the decade following cutting. In the Northwest a method has been evolved for predicting the growth of selectively cut stands of western yellow pine by decades for stands having varying initial reserves.

Cutting studies in the Sierra pine region showed that 65 per cent of the advanced reproduction is killed in logging, principally by tractor yarding. Of the 4-inch and larger trees, 14 per cent were injured and 18 per cent killed. Fellings caused 2-1/2 times as much damage as yarding in this size class. Northwestern studies show that within 5 years after logging, from 22 to 94 per cent of Douglas fir seed trees (2 per acre) left after logging were destroyed, mostly by slash fires and wind.

Results from French turpentine faces give hope of continued good yields under commercial practice. A method has been devised so that several faces on one tree may drain into a single cup.

A seed control station has been established at the Lake States Station so that seed may be tested year after year under the same physical conditions. Stratifying white pine seed in moist sawdust or sand, and placing it in a cold cellar prior to sowing, overcome sluggish germination and increase germination per cent. When Norway pine from southern seed is planted in the north, winterkilling is a common result. Planting yellow poplar after clear cutting and broadcast slash burning was rendered ineffective by sprouts, whether the slash was burned immediately or two years after cutting.

That forests are more effective than other cover types in controlling erosion was shown by Lake States studies. Methods of erosion control for loess soil were worked out. Studies of similar soils in Mississippi showed over 40 per cent of some counties to be eroding.

Space permits only passing reference to the 22 formal publications and very large number of technical articles published during the year. Included in the former are bulletins on such important subjects as "The Determination of Hour Control for Adequate Fire Protection in the Major Cover Types of the California Pine Region," "Selective Logging in the Northern Hardwoods of the Lake States," "Timber Growing and Logging Practice in the Northeast," "Timber Growing and Turpentining Practices in the Southern Pine Region," "The Yield of Douglas Fir in the Pacific Northwest," and "Soil Erosion."

Division of Forest Products

Many of the troubles experienced by householders with the swelling and shrinking of wooden construction and the consequent opening of joints are due to using lumber which had too high or too low a moisture content. Observations of wood samples placed in typical wooden houses in five climatic regions in the United States showed a yearly range in moisture content of only 0.7 per cent in Portland, Ore., while in Madison, Wis., the range was 3.8 per cent. The actual moisture content of the wood samples varied from a low of 5.1 per cent in Albuquerque, N. Mex., to a high of 12.8 per cent in New Orleans, La.

Painting studies on softwoods have shown that springwood holds paint better than summerwood, and that the lighter woods with uniform texture hold paint longer than the heavier woods, especially those with uneven texture. The greatest trouble with paint is due to the lack of adhesion between the paint film and the wood as the paint ages. Fundamental research on paint adhesion is badly needed.

The strong white papers previously made from loblolly by a modified sulphate process were practically duplicated this year using longleaf instead. Satisfactory book, writing, and greaseproof papers were also made from longleaf. Experiments on another southern wood -- black gum -- by the sulphite process resulted in the production of a pulp suitable for book magazine, and writing papers. In pulping jack pine and other resinous woods by a modified sulphite process in which soda was used instead of lime, good results were obtained on a laboratory scale. If the use of a soda base instead of the usual lime base proves feasible commercially, a great source of stream pollution will be eliminated.

The field work of a comprehensive woods and mill study in California was completed and the analysis of the data started. About 1,000 trees which were cut into approximately 5,000 logs were followed from the woods through the mill, and the amount and grade of lumber cut from each tree was recorded. A study made in Oregon on western yellow pine showed that the cost of producing a thousand board feet of lumber from trees 10 inches in diameter was

$10 more than the value of the lumber, while 30-inch trees yielded lumber worth $10 more per thousand board feet than the cost of production. Studies made during the year in a mixed stand of shortleaf and loblolly pine indicated a loss of $3.29 per 1,000 board feet in cutting 10-inch trees as compared to a profit of $11.73 from 24-inch trees.

The unusual number of bulletins published treated of such subjects as the strength of timber columns, the effect of moisture excluding coatings on wood, the effect of conditions of growth on wood quality, commercial air seasoning methods for lumber, and kiln drying of southern pine. One was a comprehensive manual on crate construction. Five technical reports treated of the use of wood in aircraft.

Division of Forest Economics

There is rapidly growing recognition of the fundamental importance in the development of private forestry, the formulation of forest policy, and the wise management of forest land generally, of accurate knowledge in the long-neglected research field of forest economics. Attempts to frame industrial and public forest programs, overproduction of forest products, foreign supplies, and a host of other problems have emphasized the necessity for economic studies. This is reflected, for one thing, in more adequate appropriations.

The resource inventory phase of the Forest Survey was organized in the Douglas Fir region. This involves cooperation with National Forest administration, other Federal agencies, States, counties, and private owners. The latter have contributed freely their own timber estimates. Information was secured on 5,000,000 acres of National Forest and 8,250,000 acres of other land. This must be checked, converted to common standards, and supplemented in various ways. Gathering of field data on the inventory phase is 40 per cent complete.

Work proceeded satisfactorily on the California Cover Type, which is essentially a part of the Forest Survey. This is one of the most comprehensive, detailed, and useful type map projects ever undertaken in this country. For the State as a whole, it is now 65 per cent complete. Arrangements were perfected for supplementing the land-economic inventories of the Lake States with information on forest conditions needed by the Forest Survey.

The Financial Aspects of Private Forestry Practice, the first project under Section 10 of the McSweeney Act, was launched for southern pine. Analyses of natural and economic conditions and possibilities for selected counties showed that under many conditions forestry is financially practical and that there is large opportunity for profitable integration of forest uses. Progress reports are in various stages of completion, designed to make the information available to landowners and operators, and to lay the foundation for further investigation.

The Forest Taxation Inquiry continued the intensive study of conditions affecting forest taxation in selected counties, and issued six progress reports on assessment ratios, tax delinquency, and property taxation for selected localities, forest tax legislation progress in 1929, and on research methods in forest taxation. Work commenced on the comprehensive report which will embody the results of the more fundamental research by the Inquiry. Following this it is probable that the organization will enter a period of applied local research especially designed to assist local efforts at forest taxation reform.

The Forest Insurance study, following the preliminary exploratory work, was localized on an intensive basis in the Douglas Fir region, where conditions as to damage, restocking, and reliability of existing reports were carefully studied for all large private land fires over the past two years in several counties.

The Stumpage and Log Price projects have been rehabilitated. The quantity of price data already secured is being systematically compiled for general and research use.

In anticipation of the necessities of the President's Timber Conservation Board, and also the constantly increasing need for many purposes by the Forest Service and others, plans are being formulated for assembling and revising economic information of the character found in the Capper Report.

Division of Range Research

Important progress was made in erosion-streamflow studies on range lands. A comprehensive bulletin covering fifteen years' study on high mountain watersheds in central Utah brings out the value of an increased density of herbaceous vegetation in reducing summer run-off and erosion of soil from mountain slopes. The smaller and materially retarded run-off reduces and delays the high water from torrential rains, thus greatly lessening its carrying power and the destructiveness of floods, such as caused hundreds of thousands of dollars damage in Utah this past summer. Over 300,000 acres of the Boise River watershed in Idaho have been covered by an erosion survey. On only 27 per cent of the area, mainly that covered with dense brush, is there no apparent erosion. On over 56 per cent much of the upper soil layer has been lost through wide-spread sheet and gully erosion, while the remainder is seriously gullied. Nearly three-fourths of the serious gully erosion was found on slopes in excess of 35 per cent. Only 4 per cent of the area supporting a high density of vegetation was seriously gullied while 20 per cent lightly vegetated was in that condition.

Herbaceous vegetation--mainly perennial grasses--is found to be the most effective erosion control agency on the semi-desert Salt River Valley watershed in Arizona. There trees and shrubs ordinarily grow so scattered they are inadequate for erosion control. Soil movement begins between them and ultimately may undermine them. Herbaceous vegetation slows down the run-off perceptibly, binds the surface soil by fibrous roots, catches soil moving on the slope, reduces gullying, and aids control and filling of gullies.

Barren clay soil areas in southern New Mexico are almost worthless and often support Drymaria, a poisonous plant of extreme virulence. Revegetation of these areas is slow because of flooding and subsequent baking in hot weather. Certain grasses will revegetate them if grazing is not too severe and these promote successional development resulting in a climax vegetation, mainly tobosa-grass, which will support a cow for a year on about fifty acres.

On the winter and spring ranges of the Intermountain Region some areas still support a valuable type of perennial grass and other succulent forage. Most of these ranges, however, are seriously depleted and now support vegetation of low value. Where a remnant of the better species remains known management principles may bring about fairly rapid improvement. The problem is much more complicated and difficult of solution where better species have been eliminated and the soil badly depleted.

Years of study and an analysis of the twenty-two years observations by range plant collectors culminated in an outstanding manuscript on range vegetation, "Important Western Browse Plants." It emphasizes forage and other economic values and ecological requirements of this important range forage plant group. The best practices for artificial reseeding of western range lands and recommendations as to the species best adapted have been brought together for publication. A glossary of common botanical terms, now in press, will be of benefit to all concerned with range management.

LUMBER SMUGGLING IS LATEST RACKET

Customs officials at Rouses Point reported recently the unusual seizure of a freight car of lumber camouflaged as potatoes and turnips. Under the new tariff rates the savings would have been considerable, the officials said. - From the Canadian Woodlands Review, November, 1930.

FINANCE AND ACCOUNTS

By H. I. Loving

Aside from the regular current work the accomplishments of this Branch during the calendar year 1930 were as follows:

(1) Transfer of the fiscal work of the eastern experiment stations and the Taxation Inquiry to Regions 7 and 9, effective October 1, 1930. In handling the fiscal work of these stations heretofore the Washington office has performed a regional fiscal office function, in addition to the general management of disbursement and accounting work, necessitating dual instructions in many instances - one set to the regional offices and another in different form for the stations. The latter is now taken care of by the Regions concerned, the same routine applying as to Forests and requiring no special instructions from Washington. The time required for making payments is somewhat reduced as to two stations, and it is probable that all these stations will be kept better informed concerning fiscal changes through the routine of the regional offices than through the previous special handling in the Washington branch office.

This change in procedure also involves transfer of the administrative audit work to the regional fiscal agents.

(2) Experimental use of the activity expenditure section of the new cost accounting scheme on 17 Forests. Reports and recommendations have been made by the Forests using the system indicating the features that should be considered for modification.. This section of the scheme is in readiness for revision in final form for inclusion in the manual, a task that is to be undertaken at once and completed, it is expected, in time for distribution to the field well in advance of the beginning of fiscal year 1932, at which time the activity expenditure section of the new system will be put into effect on all Forests. Some progress has been made also with the investment section on the Forests experimenting with the plan, but general effort in that line will be delayed until the fiscal year 1933, in order that all Forests may become thoroughly familiar with the expenditure section before undertaking the investment and activity cost section.

(3) A time distribution project in the regional fiscal offices has been undertaken, to continue through the fiscal year 1931, as a basis for organization study of these offices. This when completed will include also statistics covering quantities of work of each class, and serve as a basis of comparison between Regions and for establishing time standards for handling different classes of work.

(4) Formal authority issued from the Treasury Department on June 2, 1930, authorizing the signing of checks by deputy fiscal agents and outlining procedure as to their bonds. The practice of check signing by deputies in the absence of the fiscal agents has been in use in the Service for years but the legality of it has at times been questioned by the Comptroller, as result of which the Department sought legislative authority a few years ago. A general bill superseded our special bill but failed of passage and was not renewed. The same result, however, is accomplished by the Treasury Department circular, which is understood to satisfy the prior objections of the Comptroller.

(5) Arrangements for medical examinations of Forest officers by the Public Health Service and also by the Army Medical Corps, the latter being limited to the Ninth Corps Area, which includes most of the principal National Forest States of the West. The purpose of the arrangement was to make available to Forest officers without charge physical examinations by qualified physicians after a strenuous fire season or other severe strain or hardship, to determine whether any weakness or ailment may have developed. The main benefit of such examination is the detection of incipient disease or ailment before the effects become serious.

The travel expenses in connection with such examinations must necessarily be borne by the individuals personally.

(6) In the field of legislation the following have been authorized:

(a) Expenditure of not to exceed $8,000 annually for completion of water supply and sanitation systems costing in excess of $500.

(b) Reimbursement for damage to or destruction of private property resulting from National Forest activities when not due to negligence of Government employees, with a maximum limit of $500 on each claim.

(c) Incurrence of expenses in searching for persons lost in the National Forests and for removing when necessary persons seriously ill or injured or who die within the Forests to the nearest place where transfer to interested parties or local authorities can be accomplished.

(d) Delegation by the Secretary of his appointing powers to Regional Foresters and other field officers.

The so-called "Three Point" bill passed the House and is expected to pass the Senate during the present session. This bill is designed to (1) amend the Act of March 4, 1913, relative to reimbursement for hired equipment lost, damaged or destroyed, (2) provide for furnishing Forest officers at Government expense with forage, care and housing of personally owned animals and motor vehicles and (3) grant authority to hire or rent equipment from Forest officers.

(7) Several rather voluminous reports of long standing required by outside agencies were discontinued at our instance, among them being the Temporary Labor Report for Class 2 employees and the Overtime Work report for the Washington office. The Annual Leave report was simplified and printed forms provided for its preparation.

(8) Cooperation with the Federal Power Commission along accounting lines was undertaken on a limited scale. Field members of the Branch participated in checking the accounts and auditing financial statements of several power companies seeking licenses for the development and operation of National Forest power sites.

(9) Disbursements and collections for the fiscal years 1928, 1929, and 1930 are given below, from which it will be observed that the fiscal business of the Service is steadily increasing in volume.

Fiscal Year	Disbursements	Collections
1928	$24,939,111.	$7,556,763.
1929	25,220,182.	8,885,990.
1930	27,634,565.	9,180,317.

YE EDITOR DISCOVERS

Gullible and movie-struck youngsters with great aspirations to become Forest Rangers will not be taken in so easily, as the result of a recent action of the Federal Trade Commission in ordering C. N. Cox, who conducts a correspondence school in Denver, under the name of The Norton Institute, to stop representing in newspaper advertising or "Help Wanted" columns that he does or can furnish the position of Forest Ranger.

The course in forestry given by this institute has been found to be inadequate for preparing persons to take United States Civil Service examinations for the position of Forest Ranger. Until it is modified so as to afford information on every subject included in the examination, its advertisement by Mr. Cox is prohibited. It was found that in examinations held by the Civil Service out of 80 competitors who stated they had taken The Norton Institute course only four passed the examination and their papers showed that they had all had practical experience. Mr. Cox is also ordered to stop misrepresenting the price of the course and to discontinue publishing letters of recommendation unless they are genuine.

The so-called institute is conducted by Cox and one clerk in a portion of two office rooms. The name of "C. H. Norton," said to be president of the school, was found to be fictitious.

- - - - - - -

An interesting result of forest fire protection is reported by Mr. Peter Mallette who lives in that portion of Harrison County now protected by the Mississippi Forest Service and cooperating landowners. Mr. Mallette says that since forest protection has become effective in his part of the county, the average annual production of his bees has increased from ten pounds of honey to about ninety pounds per hive. This means an increase from $2 per hive to $18 per hive. Forest protection pays.

- - - - - - -

Governor Gifford Pinchot has announced the appointment of Lewis E. Staley as Secretary of the Department of Forests and Waters in Pennsylvania. Mr. Staley, who leaves the position of State Forester of South Carolina to accept this appointment, was for a number of years before going to South Carolina associated with the Pennsylvania State forestry department.

Mr. H. A. Smith, Assistant State Forester of Florida, has been selected as State Forester of South Carolina.

- - - - - - -

It is understood that the final report of the Commission on the Conservation and Administration of the Public Domain was submitted to the President week before last and immediately thereafter was transmitted to the Public Printer for printing. The best available information indicates that the report will not be released until it has been printed, and there is a further rumor that it will not be generally distributed but will be available mainly to members of Congress and other public or semi-public agencies most concerned in the problem.

- - - - - - -

The revising of fire forms is proving to be no less complex and laborious than it always has been. The latest revision of the Form 929 (Individual Fire Report), however, has been sent to the regional offices for what is hoped will be the final review before the new supply of forms is requisitioned from the Government Printing Office. There will be two forms, one for Class A fires only, and another for Class B and C fires. In commenting on the new form, one of the Assistant Regional Foresters said: "I hope we don't have to use very many of the revised Form 929 for B and C fires! It is rather formidable looking, but no doubt will be much less so when printed. I have no doubt it will have a salutary effect in keeping down the size of our fires."

CLARKE-McNARY ACT FURTHER EXTENDED TO TERRITORIES

Previous congressional enactments have extended to the Territories of the United States the provisions of Sections 3, 4, and 5 of the Clarke-McNary Act, but Sections 1 and 2 authorizing cooperation in fire prevention, and Sections 6 and 7 authorizing the acquisition of forest land have not heretofore been applicable outside of the Continental United States. To meet this situation Delegate Houston introduced House Joint Resolution 284 and Senator Bingham introduced Senate Joint Resolution 183 to make Sections 1 and 2 applicable to the Territories. The Senate passed its resolution on January 26 and the House Agricultural Committee reported its resolution on January 27.

However, doubt exists as to the applicability of this resolution to Porto Rico, which is not an organized Territory but rather an insular possession. Furthermore, there is need in Porto Rico to a much greater degree than in any other Territory for actual Federal acquisition of lands for National Forest purposes. The Island is working courageously and effectively to restore its forest resources, but with an impoverished population and limited means, so that Federal participation in the tremendous problem of land reclamation is imperatively necessary. Delegate Davila therefore has introduced House Joint Resolution 192; Senator McNary has introduced Senate Joint Resolution 116; and Senator Bingham has introduced Senate Joint Resolution 132, under which Sections 1, 2, 6 and 7 of the Clarke-McNary Act would be applicable in Porto Rico. Senator Bingham's Resolution was reported to the Senate on January 14 and Delegate Davila's Resolution was reported to the House on January 27. The sentiment in Congress apparently is very favorable to this legislation, so that the tropical forest work of the Service may be substantially expanded in the not too distant future. There is probably no instance where the social and economic potentialities of forestry are greater than in Porto Rico; so with the authority contemplated by the pending bills the Service can contribute markedly to the progress and welfare of the Island. - L. F. Kneipp

EXCUSE IT, PLEASE

Dear Service Bulletin Editor: We do not see by the Bulletin (Page 6, January 12 issue) that Region 9 was among those present at the road meeting in Washington in December.

Our Engineer, Holland Coleman, made his debut in the National Capital at that time, and sat in the day and night conferences for some two weeks, salvaging some surplus machinery for road building and tree planting on his way back. With Regional Forester Tinker, Mr. Coleman has just now returned from St. Paul, where he attended the Forest Highway Meeting, and reports that all the Minnesota Forest Highway funds, including unemployment emergency, totaling $88,000, have been programmed.

Maybe Alaska didn't get there, but the Great Lakes did!

H. C. came to us from the Rocky Mountain Region, after scratching gravel several years in Colorado and Wyoming, where deer trails become highways, and homesteads are dude ranches. Margaret Hayden, R-9

ALIBI

We tried to get for our readers the correct low-down on this here Roads meeting in Washington. Our able assistant was repulsed most roughly by the chaps in charge of Engineering and told that if, for example, we were to barge into one of these meetings it might mean a loss of from one to three hundred thousand pesos, not to mention a gross or two of caterpillar tractors, road hogs, etc. In desperation we sent her to listen at the door. She reported a swarm of oversized bumblebees inside. We sent her back to peek over the transom. She reported the view obscured by thick clouds resembling a Class C fire, and said uncomplimentary things about the quality of tobacco used - if any.

The halls were filled for days with unapproachable persons with frowning visages, and suddenly they were gone. At last we asked some one we thought ought to know, who in the world were in attendance, and he assured us that all Regions were represented except 3 and 9. We are now convinced that he meant 8 instead of 9.

You'd think to hear these Engineering persons that unemployment was more of a problem than getting material for the Bulletin. If you did, you'd be wrong. - Ed.

NATIONAL TIMBER CONSERVATION BOARD HOLDS FIRST MEETING

The National Timber Conservation Board appointed last December by President Hoover held its first meeting early in January. At that meeting, the Chairman of the Board, Secretary Lamont, announced the selection of members of an advisory committee with R. Y. Stuart as chairman and Ripley Bowman, of the Department of Commerce, as administrative secretary.

Members of the advisory committee are: E. T. Allen, Western Forestry & Conservation Association, Portland, Ore.; Hugh P. Baker, Dean, New York State College of Forestry; Wilson Compton, National Lumber Manufacturers Association; William L. Cooper, Bureau of Foreign and Domestic Commerce; S. T. Dana, School of Forestry, University of Michigan; Fred R. Fairchild, Professor of Economics, Yale University; Henry S. Graves, Yale School of Forestry; W. B. Greeley, West Coast Lumbermen's Association, Seattle, Wash.; Chas. T. Herty, New York City; D. T. Mason, Portland, Ore.; George N. Ostrander, Glens Falls, N. Y.; Charles James Rhoads, Commissioner of Indian Affairs; George W. Sisson, Jr., Potsdam, N. Y.; R. Y. Stuart; J. W. Watzek, Jr., Crossett-Watzek-Gates, Inc., Chicago; Laird S. Bell, Chicago; J. G. McGowin, Chapman, Ala.; Jos. Hyde Pratt, Southern Forestry Congress, Chapel Hill, N. C.

It is the plan of the Board to set up major subjects for inquiry and study, to have its members assigned to individual projects, and in turn to have members of the Advisory Committee serve on individual committee assignments.

PAT ON BACK FOR YEARBOOK AUTHORS

By C. E. Randall, Washington

More than 20 Forest Service people scribbled their powerful pieces for the 1931 Yearbook, which is now in the final stages of being put together. Judging from the following memorandum to the Forester from the Department's Office of Information Chief, our contributions weren't so bad:

"I want o express my appreciation of the excellent quality of the articles prepared for the 1931 Yearbook. They are practically all well written and interesting; and many of them are of unusual importance. The writers have taken pains to make themselves clear and they have succeeded. The popular style they have adopted has not, it seems to me, occasioned any loss of scientific quality, though it may have necessitated the suppression of much detail. For the purposes of the Yearbook this is not a drawback. It is worth while now and again to bring complex matter into sharp focus, with general principles rather than minute particulars emphasized. By doing this in the Yearbook, we afford an outlet for much material that might otherwise await publication for a long time, and we give a bird's eye view of the Department's manifold activities. I judge from the cordial and able manner in which the members of the Department cooperate in preparing this kind of a Yearbook, that they take much the same view of its value that I do.

Very truly yours,
/s/ M. S. EISENHOWER, Director.
Office of Information"

A study of the effect of turpentining on tree growth based on stem analyses from turpentined trees has been under investigation during the past two years. This study indicates a very wide variation in the effect of chipping on height growth, ranging from none to a 50 per cent decrease in growth rate. The method of chipping seemed to have very little effect, except that where two faces were placed on a tree the height growth was cut down considerably more than where only one face was used. The portion of the tree trunk directly above the face showed a decided decrease in growth. The part of the tree opposite the face was practically unaffected, whereas the shoulders of the face or the bark-bar between two faces often showed an acceleration in growth rate. - From Annual Report of Southern For. Exp. Sta.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol XV, No. 7 Washington, D. C. February 16, 1931

OUTSTANDING ACCOMPLISHMENTS - 1930

OPERATION

By Roy Headley

For years the objective in fire control, for the Service as a whole, has been to hold the acreage burned to one tenth of one per cent of the gross area of the National Forests. According to the records back to 1908, this has never been attained; in fact it has rarely been approached, and only three times during this twenty-three years has the percentage dropped below the two tenths of one per cent figure. At the head of the list of accomplishments this past year in the field of Operation belongs, therefore, the practical attainment of the fire objective for the first time. Latest returns, subject to minor modifications, show the 1930 area burned percentage to be .106. The season was not the most difficult but it was decidedly not an easy season, there having been in excess of a thousand more fires in 1930 than in the average year in the past decade. Recent increases in appropriations have been a great help. Of immeasurably great help also have been the benefits which are now being reaped from the years of widespread effort to strengthen executive management in fire control, leading to speeding up in suppression processes and to the development of the state of mind that makes for speed in fire suppression.

Little additional need be said regarding the Washington Conference of Regional Foresters which also contributed much to the outstanding accomplishments of the year. This subject has been well covered in other articles. The development at this meeting of inter-Regional correlation and allotment making principles will be a major contribution to future financial management in the Service, providing the covenants in the "Treaty of Washington" are maintained.

The progress made in the integration of (1) sane principles of protection road building (2) financial management and (3) fire control needs has been very gratifying. No one who has not seen at work the adaptations to our peculiar needs, of back-fillers, 60 and 75 "cats" and other heavy machinery, in the fast and inexpensive building of roads for protection purposes can appreciate the service-wide advance made during the recent past in this class of work. Roads in many sections are now being built at a cost formerly thought of only in connection with trails. As a result of the recent meeting in Engineering of Regional road specialists, further important correlations of ideas and methods, of using machines and of types of machinery, have been obtained.

During the year the minimum salary for Rangers was raised to $2,000. This increase has been reflected in the more difficult examination for this position; one of the prerequisites being experience for six months as foreman of a crew. Standards of performance and of personnel management have also moved ahead steadily.

All of the space allotted this article could be devoted to a discussion of the development of plans for classification of field positions as manifested by the report of the Personnel Classification Board. The entire force is indebted to Regional Forester Pooler for his contribution to this project, in the important concessions in classifications which he obtained from the P.C.B., and in his report to the Forester giving a detailed and thorough treatment of the principles and class descriptions developed by the P.C.B. as applied to the Forest Service. This included an admirable and well supported argument for higher allocations.

In the field of job analysis and plans the recognition of the need for better practice in the making and follow-up of the plans has gone ahead. Definite gains have also been made in the use of job analysis as a means of job weighing and in the development of beneficial reorganization plans.

In the development of training, the Service has gone forward following the program resulting from previous discussions and as further decided upon during the Washington Conference. Mr. Keplinger was transferred to the Washington office to continue the leadership in this work which he formerly handled from Denver. It will probably be of general interest to know that the discussion course this winter is being participated in by four other Government Bureaus and also by a forest school at one of the Universities.

The progress made by Mr. Beatty in his radio studies has been the subject of an article by Mr. Simson in the October 13, 1930, number of the Bulletin.

PUBLIC RELATIONS

By Fred Morrell

Division of State Cooperation

A report was made during the past year on the forestry situation in Arkansas and recommendations sent to the Governor of Arkansas by the Secretary of Agriculture under the terms of Section 1 of the Clarke-McNary Law. The report was published as a bulletin of the Extension Service of the Arkansas State College of Agriculture by E. Murray Bruner under the title FORESTRY AND FOREST FIRES IN ARKANSAS. This project was carried through in response to a request of Governor Parnell to Secretary Hyde. Distribution of the bulletin, as well as copies of the Secretary's letter to Governor Parnell, which recommended that the State undertake forestry work, was made this summer in Arkansas. This material was available for distribution at what was thought to be the psychological moment from the point of view of effecting State legislation in forestry this winter.

Revised estimates of the cost of protecting State and private forest lands from fire, figured on a basis of maximum allowable percentage of area burned to area protected, were completed for all States during the first part of the year. The new figures were used for the first time in connection with making the 1931 Federal allotments to States for forest fire cooperation.

A considerable increase is to be noted in the area of State and private forest lands estimated as in need of public protection over the previous estimate (1924). This increase is from 381,209,000 acres to 417,051,000 acres, with the corresponding estimates of cost going up from $10,245,950 to $13,367,500. Inasmuch as protection work had not been started in many of the States prior to the previous estimates which were made effective in 1924, substantial changes were to be expected by the revision in question. There has at the same time been a sharp increase in expenditures by the States in the Northwest during this period and a raising of standards. It is expected that, in general, these new estimates will stand for the next five years, although deductions will be made in individual cases if there appears to be strong reason for such deductions.

Mr. Wheeler gave 143 lectures in 16 States and the District of Columbia to approximately 23,730 people during the calendar year, together with four radio talks in the District, one in Louisville, Ky., and one in Jackson, Miss.

During the past year Miss O'Donnell prepared and completed the compilation of forestry laws for 14 States, making a total of 47 States for which these data have been completed to date. These laws are classified by subjects and by States. It is believed that this information is nowhere else available in this form.

Through Mr. W. R. Mattoon, and through Mr. W. K. Williams in charge of the administration of Section 5 of the Clarke-McNary Law under the Office of Cooperative Extension Work, contact has been maintained with farm forestry activities. Mr. Mattoon has visited and cooperated with Extension Foresters in 12 States, and has represented the Forest Service as subject matter specialist in the project as a whole.

He has also engaged in the following publication activities: Text prepared for a South Carolina bulletin on Slash Pine; Revision of Longleaf Pine bulletin; Text for Minnesota Tree Guide; Yearbook article - Big Four in Forest Planting; Completed Black Locust Farmers Bulletin.

During the past year the Forest Service cooperated with 38 States in forest fire protection and with 38 States and 2 Territories in the distribution of forest planting stock. This work involves constant contacts between the Clarke-McNary Law Inspectors and individuals, and groups of individuals in the various States, - work of real significance which need not be here outlined. The organization of the Central States Forestry Congress should, however, receive special mention. This Congress had its initial meeting at Indianapolis December 3 to 5. District Forest Inspector E. Murray Bruner was one of the founders and did much to make the first meeting successful. It represents conscious effort to advance forestry in the Central States.

Division of Information

The Division continued last year to grind out its daily grist of informational and educational material, intended to tell the world about forestry, to make people first forest-conscious, then forest-wise. The public demand for information on forest subjects is noticeably increasing. Certain refinements have been made in our educational methods and ideals.

During the year George A. Duthie became chief of the Division, succeeding Ward Shepard who resigned last March.

Nineteen-thirty has been a "good news year" for the Forest Service. Press releases and clip sheet items issued on the work of the Service and on numerous phases of forestry, fire protection, new uses of forest products, and many other topics of public interest numbered approximately 145 for the year. Much short paragraph material, many news photos, and several special articles were also prepared. In addition, personal assistance was given during the year to 248 writers, newspaper correspondents, etc. for the preparation of articles, stories, features, text books, and the like, contributing to general and popular knowledge of forestry and Forest Service work.

Radio releases are increasingly important and numerous, approximately 100 radio manuscript programs or parts of programs having been prepared and released in 1930. Eight network radio talks were made by members of the Forest Service personnel.

Reception both of news articles and radio material has been especially gratifying, the news agencies and the public "coming back for more." Comments, inquiries, and fan letters indicated the effectiveness of the radio talks and the radio manuscript service. Editorial tone throughout the country has indicated that the people are interested in forest news and developments.

The 1930 output of publications totaled 32 new publications in five regular series of the Department, and 24 map folders. In addition, the Service procured 16 reprints or revisions of earlier publications the supply of which had become exhausted. Seven miscellaneous reports were issued, including the Annual Report of the Forester. The new publications of the year included 15 Technical Bulletins, 7 Agriculture Circulars, 6 Miscellaneous Publications, and 4 Agriculture Leaflets. The 16 reprints included 3 Technical Bulletins, 10 Farmers' Bulletins, and 3 Agriculture Leaflets. The new publications totaled more than twice the average annual output of publications in regular series for the lifetime of the forestry work of the Department. The 24 map folders are three more than the total of map folders published in 1929.

In cooperation with the District of Columbia Schools, 11 forestry meetings, attended by 2,828 sixth grade children, were held May 5 to 9. A specialist in forestry, furnished by the Service, spoke at each meeting.

During the summer educational material for use in schools was revamped, and new material prepared.

Following conferences with representatives of the National Recreation Association, preliminary plans were made for cooperating in the educational activities of the Association.

A total of 2,500 individual requests for educational material, from teachers and others engaged in educational work were taken care of during the year; 206 sets of wood samples were loaned to schools; and 9 traveling school exhibits were loaned to 40 borrowers.

During the year the lantern slide collection was enlarged, new equipment added, and the filing scheme altered so as to make selection of material easier. A study of the needs of the collection was begun and a start made toward obtaining new slides. About 1,000 slides were added during the year. Of this number more than 600 were added as a result of the study made; the others were requested by members of the Service for special use, were needed to replace breakage, and to supply loans. Some of the slides requested for the collection were placed in special sets; others were used to strengthen the collection where it was weakest.

A complete revision was made of the slide set on "The Work of the Forest Service," and special sets were assembled covering softwood lumbering in the Southern Appalachians, hardwood lumbering in the same region, production of mine props and ties in Wyoming, a Government timber sale in Colorado, modern turpentine practice, and the making and care of a camp fire.

About 11,500 slides were loaned to the public and according to reports, which were incomplete, they were shown to more than 60,000 people. Five hundred and sixty-four slides were sold to the public. Most of the sales were made to State Foresters and Colleges. Museums which distribute slides for educational use, schools, and public speakers also purchased material.

In the matter of informational correspondence, an estimated total of 1,000 letters was written by the section of educational cooperation during the year, in response to individual requests for information, data for articles and books, and the like. This total does not include letters relating to school, young folks, and club work, lantern slides, etc.

Five new motion pictures were made during the past year, 4 of them were 1-reel films, and the fifth, a 3-reel film - "FORESTS OR WASTELAND." Notices for the release of these pictures were sent to all Regions, Forest Schools, State Foresters, and a number of other organizations with the idea of securing the maximum circulation for them.

Three new large exhibit pieces for State Fair showings were designed by this office and constructed by the Department Office of Exhibits. Smaller Folding Panels were designed and constructed by this office for Regions 2, 3, 4, 5, 7 and 9, a total of 18, and 1 working model "THE FOREST AND WATER," designed for use by the Association of Museums throughout the United States. Six new panels, featuring tree species, showing cross and longitudinal sections of the wood with colored picture of the leaf and fruit, and picture of the stand, and individual tree, and map of distribution, were made up for school use; and fifteen bromide enlargements on various subjects were made up to meet the demand of State Foresters, associations, etc. Work has progressed on the plan for the World's Fair exhibit at Chicago in 1933, and for a National Recreation Show to be held in Springfield, Mass., in 1932.

Region 1 secured shots for a campfire reel, which has just been finished, and named "SMOKE" and Region 5 secured material when Paul Fair was in the Region for the film "Timber-r-r" which will soon be released.

There was a total of 214 showings of our exhibit material with 4,253,000 actual visitors to our exhibits, and 2,757,000 people were reached by motion pictures; making a total by both classes of material of more than 7,000,000. Of this total, 1½ million people were reached by the Regions and the remainder through the Washington office.

ENGINEERING

By T. W. Norcross

The year 1930 was a busy one for Engineering. The accomplishments may be considered as great but viewed from the large amount of work that must be done there exists a feeling that progress is all too slow. There was much activity in the surveying line; over 1200 square miles of plane table and topographic surveys were made, some 800 square miles of drainage surveys, besides about 600 miles of other surveys. The cooperation with the General Land Office was continued and some progress made in Region 1. One interesting feature was the continuation of aerial photographic work upon a somewhat larger scale than the preceding years and the extension of this method into Regions other than Region 1. Considerable thought is being given to the development of this method and it is hoped that 1931 will show further advances.

In the water power activity, probably the greatest advance was the approval by the International Electrotechnical Commission of a standardized method for rating rivers. The method in its present form does not give a complete rating but supplements to the approved method will be worked out during 1931 and used in compiling Forest Service statistics of the water power resources of the National Forests. A very large amount of time had to be given to water power legislation and much confusion and uncertainty have resulted from the change in the Water Power Act. During the year 1930 the Forest Service continued to act as the field representatives of the Federal Power Commission and handled a very large amount of investigative report and survey work. Also at the request of the Power Commission it was engaged in valuation and accounting work on a considerable number of very important projects. So far as is known the work done by the Forest Service was found very satisfactory by the Power Commission. Much thought was given in attempting to find ways of eliminating the confusion caused by withdrawals and classifications being made by the Geological Survey without knowledge of or recommendation by the Forest Service. As a result of conferences with the Geological Survey this situation is now in decidedly better shape, and a plan has been approved whereby it is believed that the water power resources of the National Forests will be much better handled in the future than has been possible in the past. Conflicts of water power with other uses of the National Forests have caused considerable trouble and no decision has yet been reached on the best manner of handling these. Further action is dependent upon an opinion by the Solicitor.

The records of miles of roads constructed and maintained and the expenditures thereon are prepared by fiscal years, therefore no statement can be made for the calendar year. During the fiscal year a very large mileage of roads was constructed and the cost per mile was appreciably less than the preceding year. The activities subsequent to July 1 were decidedly greater due to $1,500,000 being appropriated for roads and trails under the Improvement Item. The probability is that the expenditures during the calendar year were at least 50 per cent greater than in any preceding year and that the costs per mile for the year's work were greatly decreased. Decided advances have been made in equipment and construction methods. No decidedly new methods have been evolved but marked improvements have been made in new and original methods earlier adopted for the minor road work. It is expected that these improvements will continue and much thought and effort are being given to this phase of the work. The purchases of equipment were decidedly greater than during any preceding year. Practically all of the work is now handled by equipment and the larger sizes and more highly powered machines are being employed. Difficulties encountered in purchasing equipment led to the decision to hold a meeting in Washington during the winter at which decision on specifications would be reached to be used as a basis for 1931 purchases. Due to the emergency unemployment appropriations, purchases of new equipment were initiated in December and there is every probability that the total expenditure for 1931 will be very great.

The transportation planning method was considered by the Regional Foresters and recommended for the Forester's approval. This was given and several Regions are now engaged in making transportation plans. Many interesting and far-reaching results have already been brought out by this method of planning. Several important questions or objectives must be answered before the transportation plans can be completed in final form. In the meantime progress can be made on other than the purely protection roads with perfect assurance that the right standards, etc. are being used, but there will be great uncertainty on the protection roads in certain Forests and where questions of protection policy are involved.

The method for determining the economic value of a road was completed and a copy sent to the Regions. It is not thought that this method will be final since this is the first time that any such method has been worked out. Through use it seems probable that improvements will be found possible.

During the last session of Congress a very large amount of time had to be given to road legislation. A danger of action being taken that would seriously affect the National Forests through a change in the method of utilizing the Forest Highway fund was avoided and a satisfactory substitute was finally approved. The annual appropriations for Forest Highways have been increased over 100 per cent and this makes possible much faster progress than in the past. In this connection the increased appropriations for National Park roads and the beginning of appropriations for roads across the public domain are of interest through the effect they will have on need for and progress on Forest Highways.

RECREATION BILLS NOW PENDING

The estimates for the fiscal year 1932 as originally submitted contained a new item which would permit of the more technical planning and development of areas of outstanding recreational value, of which the Mount Hood area is a notable example. At the hearing before the Budget Bureau the Director, Colonel Roop, while indicating his personal sympathy with the project took the position that it was not justified by basic legislation and therefore not properly allowable in the budget until such time as basic legislation could be secured. A bill authorizing such legislation therefore was drafted and submitted to Colonel Roop. It is understood that in conformity with the prevailing procedure this bill received the President's personal attention. At all events, Colonel Roop indicated that within certain limitations it would not be in conflict with the financial policy of the administration.

The bill therefore has been introduced in both houses of Congress; in the Senate by Senator McNary as S. 5810, and in the House by Representative Haugen as H. R. 16336. Although the remaining life of the present session of Congress is relatively short, it is hoped that these bills will receive consideration by the House and Senate Committees on Agriculture, will be reported out, and will be passed. Because of their great importance and wide appeal, it is believed that if their pending status is generally known by the public they would receive a great deal of support. - L. F. Kneipp

GREENER PASTURES

By W. M. Nagel, Blackfeet

Usually once, and to some of us several times, there comes an opportunity, or some necessity arises, whereby we consider a transfer to lands unknown. Our relative positions in the Service have little bearing on the probability of transfer. However, as to the lands unknown phase, our superior officers have generally been able to catch a few glimpses beyond our own horizon. Quite naturally, then, we seek their counsel.

Usually a reply as to whether or not we will accept the transfer is requested within a few days, since it is desirable, as a rule, to arrange for filling a vacancy without undue delay.

The unmarried man, if he chooses, can pick up and go. He wants experience and is ready to grab it. His chief concern, usually, is the job itself.

The married man may be equally interested and desirous of wider experience but other persons must be considered before making decision. What effect may a possible change in climatic conditions have on the various members of his family? Are school facilities satisfactory? And are the environments of the new location conducive to a harmonious and happy social life?

Few positions there are that would not have several or many men well qualified to take them over, and the married man who impulsively accepts without due consideration all phases of the proposed transfer, is not only running the risk of not being able to give the Service the best he has, but is a bum sport so far as his family is concerned.

I am not speaking of a compulsory transfer. That is a matter in itself.

To continue, - out of a blue sky you receive an opportunity to transfer. Before going home you give the new job a lot of thought. You hunt through the files, but aside from the organization lineup in the Directory and the size of the Forest in the table of acreages, you find but little to throw any light on the problem. Eventually you reach home and either eagerly spring it or casually mention it to friend wife, who, from her first look at you, has probably suspicioned that either you found a five dollar bill or are the recipient of a traffic ticket.

Shortly, not having globe trotted much recently outside of a hundred mile radius, you both start for the sectional bookcase and bring forth the Literary Digest World Atlas, or what have you. In the due course of time you have found the proper State under "Principal Cities of the United States." Perhaps "and Canada" is there too. Then your eyes run down the column and stop at, "Ellenville, C-4 pop. 2,117"; or else you don't even find it. Not so bad. You turn to the State map and run your index fingers along the lines from C and 4 and there you are. And it's not far, apparently, from a larger town of which you have heard, and where you may, perhaps, occasionally sunburn the roof of your mouth taking in the tall ones, if so inclined.

Shortly, you are sure that by stopping over one night at such and such a place you can rattle in to friend wife's or your old homestead in time for a late dinner by the second evening. Before laying the book down, close at hand, you look up the State flower, nickname, and Latin motto. Once more you give serious thought to the job itself, and wonder about this and that activity. Later friends drop in, and in the course of the conversation you learn that a certain policeman's or electrician's wife once taught school near Ellenville. But I warn you, do not expect too much. Chances are better than nine to one that you will find that the lady concerned was some forty miles from Ellenville, some 18 years ago, and that she didn't get around much because you know autos weren't so numerous then, etc.

Next day you start a systematic search of the records. You find a lot of statistics, but they are usually limited to Forests in your own Region. You thumb the pages through a two year stack of Service Bulletins, in the basement, for that article you remember seeing and not reading thoroughly.

That afternoon a visiting officer of wide experience drops in, and at the appropriate time you say, "Jack, what do you know about the Hoolo Forest? I have a chance to go there as so and so." Jack says, "That so? Well Jill, I really don't know much about what they're doing there now, but when I was working out of the Washlandque office it was one of the best jobs in the State. They had a brisk sales business, not a lot of grazing, a good special use business around Creeping Injun Lake, etc. I suppose, etc., but I can't say." And that's that.

To cut short a long story, would it not be desirable in an organization such as ours, in which transfers are more the rule than the exception, to have a ready reference circular or booklet in which a page or two would carry general information relative to each Forest? I have in mind an outline covering, in part, the following information:

1. Available resources of the Forest.
2. Average annual revenue in each resource for a given period.
3. Probable important changes in revenue in near future.
4. Some index to the problems and volume of work in each activity.
5. Average number of temporary employees in each activity during field season.
6. Average number months in field season.
7. Principal activities on each ranger district. Number of months Ranger is on district annually. General living and school conditions.
8. General information relative to supervisor's headquarters, town and living conditions there; Population; Principal activities in that vicinity such as, lumbering, agriculture, mining, etc.
9. Outline of travel conditions in forest by road and trail or cross country.

A reference of this kind need not necessarily be limited to information relative to the National Forests, but could include Experiment Stations, etc. It should be revised at reasonable intervals.

Such a booklet would probably have its greatest value in giving each of us a better conception of the other fellow's job, and of the work on all of our Forests.

If the many advantages of such a booklet warrant having it, why not have it?

SHE'S HERE!

By E. A. Ziegler, Southern For. Exp. Sta.

In the December 1 number of the Service Bulletin, under the caption "Timber Famine," a forester recites about a 35-year timber supply in virgin fir on the Pacific Coast and the declining per capita consumption of lumber, and then remarks, "Ten years ago foresters were more certain of a timber famine than they are now."

Everyone will grant that all Rocky Mountain and Pacific Coast softwoods (not virgin fir) represent perhaps 35 times our annual lumber cut. But the relative term "timber famine" connotes a time, not when all the timber is cut, but when the supply becomes small enough and remote enough that the price to consumers becomes prohibitive.

In other words the writer of the same note proves the "timber famine" thesis himself beautifully when he goes on to say that in the year (of distress lumber prices, mark you) 1930 he found No. 1 Common lumber S 2 S selling at the average price of $61 per M in four Milwaukee yards!! And he recites further that the average lumber freight charge for yards in southern Michigan was around $21 per M! He then announces, "At $61 common lumber becomes close to a luxury." No, it is still a necessity, but a necessity at famine prices.

Would not that $21 freight make a fat stumpage to a grower of white pine on the poorer lands of southern Michigan? And to recall that just 30 years ago these same Michigan and Wisconsin were leading the U. S. in lumber cut with 6 billion feet output! Ye Oracles, the timber famine has already arrived in Wisconsin and Michigan by this same authority!

YE EDITOR DISCOVERS

The FF deficiency requested of Congress during the present session is $1,270,000. In round numbers this is two million dollars less than the FF deficiency requested for the fiscal year 1930. Therefore, during the past season, the Service as a whole not only attained the best record in area lost since 1908 but in addition has reduced the FF defieicy for the fiscal year 1931 by two million dollars compared with the same deficiency for the fiscal year 1930. Although the past season was not as difficult on the average as the previous one, it was far from being an easy season.

Various things have contributed to the good record for the season of 1930. Increased appropriations and the cumulative effect of years of work have provided more roads, trails, vehicles, pack transportation facilities, fire guards, and equipment. Executive management of fire control is showing the cumulative effect of years of effort to strengthen the personnel and executive aspects of this activity.

In the season of 1930 there were 716 more man-caused fires than during the average of the five-year period ending in 1929. The total of man-caused and lightning fires in 1930 was 1,119 greater than the total annual average for the five-year period ending in 1929. Lightning fires in 1930 were better distributed in time and area than usual, thus largely freeing the fire organization from the dreaded congestion which occurs when individual storms set large numbers of fires on particular Forests.

- - - - - - -

In response to a request from a high Government authority, rough estimates were secured from Regions showing what had been accomplished in getting road and trail unemployment work under way as of January 27. On that date, 29 days had elapsed since the three million dollars for FRD roads and trails was actually released to the Service. On January 27 work had been started on 222 projects, estimated expenditures on these projects to June 30 being two million dollars, or two-thirds of the three million dollar appropriation. Work had been given to 2,795 unemployed men. In the Lake States, Region 6, Arkansas, and no doubt in other places not yet reported, crews are being alternated in order to make the road and trail work go as far as possible in relieving distress on account of unemployment. In California only men who are heads of families are being employed.

Rough preliminary figures show that this winter's program of road equipment purchases will result in orders to manufacturers for $1,200,000 worth of such machinery. Although the meeting of regional representatives to draw specifications, pool orders, etc. has been closed less than a month, orders have been placed for more than two thirds of the total needs for machinery, and it is expected that all orders will have been placed by March 1. A large portion of these equipment purchases will, of course, be charged to regular road and trail appropriations. In specific instances which have come to our attention, orders for machinery have restored wage earners to factory payrolls, and it is believed that the purchase of the machinery so urgently needed from the standpoint of getting maximum mileage of roads will also help greatly in stimulating employment east of the Mississippi, and thus meet in part the insistent demand from numerous public men that the first unemployment appropriation be so used as to make the maximum contribution to unemployment relief in the East.

- - - - - - - -

On a recent visit to Washington, Frothingham of the Appalachian Forest Experiment Station, told how his station is helping to provide for the unemployed at Asheville and at the same time is getting a much needed job of thinning done without expense on the Bent Creek Experimental Forest. Men obtained through the Associated Charities are paid by a week's rations in return for three days work. The wood obtained from the cuttings is taken to a community wood yard in Asheville and sold for $5 a cord, and the proceeds turned into relief work.

- - - - - - - -

Fire conditions in Region 7 are reported as serious, particularly in the Southern Appalachian Forests. National Forest losses during the last ten day period in January were confined to the Ouachita, Cherokee, and Nantahala Forests, but because of the inflammable condition of the ground and low visibility, several Forests have been authorized to employ emergency guards. Unless there is a heavy fall of rain or snow within the next few weeks, the Region will probably be faced with an extremely difficult fire situation this spring.

- - - - - - - -

Francis H. Eyre, who has been attached to the Division of Silvics in Washington for several years, is being transferred to the Lake States Forest Experiment Station. He will take up his new duties sometime early in March.

FORMER SUPERVISOR HONORED

In memory of the late Nelson F. Macduff, for many years Supervisor of the Cascade Forest, the National Geographic Board has named a prominent mountain in that Forest, "Macduff Mountain."

This peak lies approximately three miles south of McKenzie bridge on the divide between a fork of the McKenzie River and King creek, and near the spot where Macduff lost his life in April, 1930. The elevation of Macduff Mountain has never been determined, but local Forest officers say that it is between 5,000 and 5,500 feet above sea level.

The suggestion to name this peak for Supervisor Macduff was made by Forest Ranger Smith Taylor, of McKenzie bridge, who has long been stationed at that point and was a close friend of Supervisor Macduff. The proposal was approved by Supervisor Thompson, at present in charge of the Cascade, and was endorsed by L. A. McArthur, Secretary of the Oregon Geographic Board, as well as by the Regional Geographic Names Committee of the Forest Service.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV No. 8 Washington, D. C. February 23, 1931

MEMORIES

By Henry B. Steer, Washington.

Recently my family and I, together with our few worldly possessions moved several thousand miles. Our personal effects, which had been packed in more or less haste at the other end, were not unpacked here until we felt the need of some particular article. Recently while looking for a certain paper, I came across a badly worn but generally legible and intact program which let loose a veritable flood of memories. The memory provoking document is the program of an entertainment held on board the R. M. S. "Carpathia" on September 29, 1917, in aid of the Liverpool Seamen's Orphan Institution. The program has an etching of the orphan institution and a picture of the "Carpathia." Memories? What a host of them. British chow, including marmalade; stormy nights and days accompanied by spells of sea sickness; Halifax Harbor for about ten endless days and nights; the final start; our accompanying "scrambled egg" as the camouflaged cruiser convoy was dubbed; nights disturbed by rats walking across your face as you tried to sleep in your bunk way down below; finally the submarine zone - no smoking on deck at night and all lights carefully screened; the rumor that "they had got" one of the ships in the convoy - and finally weren't we glad to see the destroyer flotilla which came to meet us. Well do I remember the night of the program - a crowded saloon (Note, I mean the program on the Carpathia, not any one of several subsequent "programs" on the other side) - tobacco smoke so thick you could cut it with a knife, and the cream of the 10th Engineers entertaining with songs, recitations, and instrumental music. When I say "cream" I mean just that, for none but enlisted men were considered of proper caliber to rate a place on this program.

You know the 10th wasn't such a bad outfit after all, even if the enlisted men did do all the work and the officers got all the credit. I am surprised that no record has been kept of this organization by the Service. (At least there is none that I can find.) Surely even at this late date I believe it would be desirable to collect in one place all available records, articles, and mementoes of the original forest regiment, and by adding to the collection so obtained whenever possible build up a fairly complete record and story of the "10th." Incidentally I have had the program photostated, and a limited number of prints are available for those who care to write in for them.

Comes anon eternal darkness. St. Peter on the job at the pearly gates towards which a wandering soul wends his uncertain way. "No my boy," says Pete, "I'm afraid I can't do anything for you." "Your record seems to be excellent until 1917 - but you sure fell by the wayside in 1917 and 1918 and you never seemed able to get over it."

"But by the thousand unmentionables, Honored Sir," replied the shadow (who resembled me)"you don't understand the provocation." "I felled timber and policed the streets of Vanvey for Dorr Skeels; I pecked a typewriter and did lots of other things at Gievres (A.P.O. 713); while still a private I took the band and ball team of the 1st Battalion pretty well over southern France; I fought fire at Burricous; I went through the camp at Brest; I came home on the New Jersey and was turned loose sans money; sans job; sans home; sans hope."

"My mistake," says the Saint, "I thought you were an officer." "Enter." "The best we have is yours"!!!!

THE ANNUAL COST OF THE FORESTRY ENTERPRISE IN THE UNITED STATES

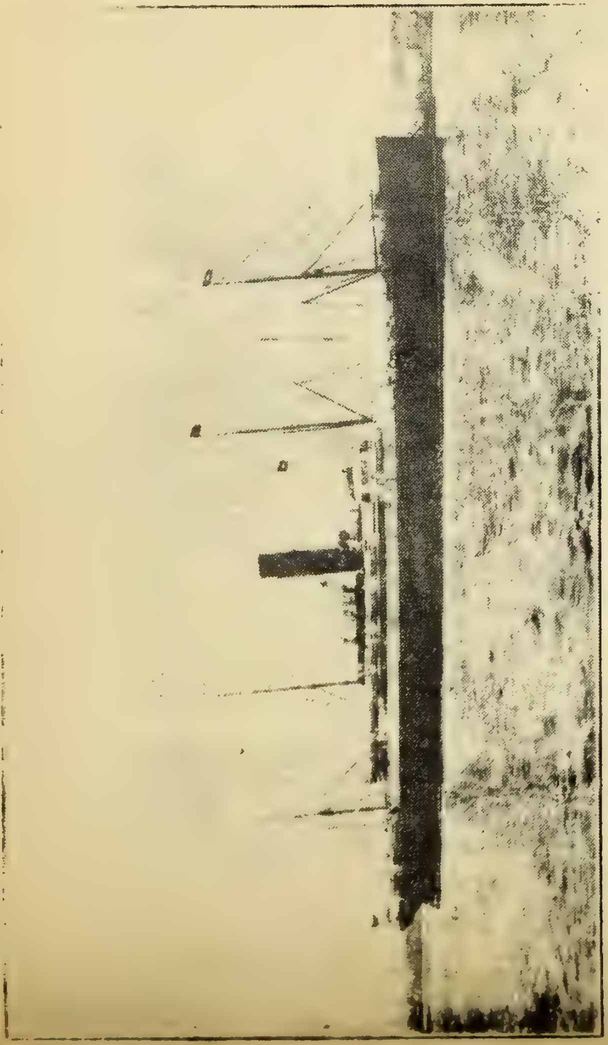
By Jno. D. Guthrie, R. 6

I had occasion recently to attempt to set down in dollars and cents what the forestry enterprise is costing the United States. The 1930 total while by no means final is rather impressive, reaching over $34,222,970. (Canada and Mexico are also spending money for forestry, which fact however does not concern us here.) There are many cost details as yet unavailable but so far as I was able to find a figure, I have included it. Obviously, the total should include all the money spent in one year by the Government, the States, and private persons, owners, and agencies for forestry, whether it be for administration, protection, research, management, or education.

It may be of interest to touch on some of the details of this attempted compilation, which as I say is far from complete. For example, there are at least 9 Federal bureaus, departments, or agencies expending money for forestry. The Forest Service naturally spends the most - $21,137,830 for 1930. The Bureau of Public Roads spent $5,765,507 for Forest roads and trails. Forest Pathology (Bureau of Plant Pathology) spent $137,080, the Indian Service $135,000, the Bureau of Entomology spent $64,300 on forest insects, the Interior Department $40,000 for protection of public domain forests, the National Park Service spent $36,000, the Weather Bureau on forest fire weather work spent $30,000, and under the Smith-Lever Act there was expended $5,020 for forest extension - all amounting to $27,350,737, for various phases of forestry.

The States present the sizable figure of $5,271,077. There were $13,650 spent under the Smith-Lever Act for forestry extension; by States and State colleges for forestry extension, $62,393, while 44 States and 2 Territories spent $5,195,034 for fire, planting, land purchase, education, publications, etc.

When we attempt to get at the amount which the private owners are annually putting into the forestry enterprise, we strike difficulties. Apparently no agency nor individual has so far arrived at such a figure. The amount expended annually for forest protection by private protection associations is available and amounts to $1,231,928. There is also available the acreage annually planted by private owners in the United States which, at an arbitrary planting figure of $6 per acre, amounts to some $370,000. Among the items so far intangible are: salaries and expenses paid to or expended by private consulting and association foresters in the United States; annual costs of private forest research by industrial concerns (the National Research Council said there were at least 100 concerns in 1921), and by nonforestry universities and colleges; annual costs of privately endowed schools of forestry (no State funds received); private forestry foundations; national and State forestry associations annual expenditures; annual expenditures of the Society of American Foresters.



PROGRAMME

OF

ENTERTAINMENT

IN AID OF THE

LIVERPOOL SEAMEN'S ORPHAN INSTITUTION.

TO BE HELD ON BOARD

R.M.S. "Carpathia"

By kind permission of Commander Robt. Capper, RD., R.N.R.

On SATURDAY, SEPT. 29th, 1917,

IN THE DINING SALOON at 8-30 p.m.

Chairman 1st. LT. CHAP. H. G. WILLIAMS

PART I.

Star Spangled Banner

Pianoforte ... "Desecration Rag" ... ...
Private Steer—10th Engrs

Song ... "A Perfect Day" ...
Bugler Daffer—2nd Engrs

Quratette ... Selected ... ...
Sergt. Maj. Miller, Regt. Sup. Sergt. White
Sergt. Dorward, Pte. Zeigir

Humorous Song "It takes a long tall dark skin Gal"
Regt Sergt. Maj. Miller

Hawaiian Instrumental Trio ... ...
Regt. Sup. Sergt. White, Sergt. Whitlock, Pte Holther

Monologue ... Selected .. ...
Pte. E. L. Smith...2nd Engrs

Chairman's Remarks Collection.

PART II.

String Quintette ... ...
Reg Sup Sergt. White, Sergt. Whitlock, Ptvs. Holther, Narramore and Batten

.. ... "Echoes from the South" ..
Regt. Sergt. Maj. Miller

Humorous Song ... Selected ... ...
Sergt Bugler Schellermore

Instrumental Solo ... ...
Regt. Sup. Sergt. White

Recitation ... ...
Pte. Zeiger

Something or Other ... ...
Bat. Sergt. Maj. Dew, 10th Engrs

GOD SAVE THE KING AMERICA

Perhaps there are other classes of private agencies spending money each year for forestry in this country. Perhaps also a guess of $1,300,000 might cover the above six or seven intangible items of private expenditures. Setting down the rather definite amount of $34,222,-970 for the known expenditures, and using the figure of $1,300,000 for the estimated private expenditures, we get the grand total of $35,522,970 which is known to be too low but which must be admitted is a pretty sizeable figure. How much and what kind of forestry are the American people getting for this huge annual expenditure? That is another story.

THE R-9 SUPERVISORS' MEETING

By Peter Keplinger, Washington

Last December I had the privilege of attending a Supervisors' meeting in Milwaukee. During the past twenty years I have attended quite a number of meetings but this one seemed to be different. As you know Milwaukee is headquarters for our newest Region. Possibly this newness accounts for the difference. I think it does in part. For one thing those participating were all young men, new to their jobs, filled with enthusiasm and impatient to do things or make things happen. Possibly also the method followed helped to contribute.

In the first place it was advertised as a "Directors" meeting for the Region. The idea here I think was that it was not a "meeting" in the usual sense but simply a work meeting of a group of busy executives to discuss common problems. There was no formal "program," no speeches, no papers read, no committees, no resolutions, no chairman and no parliamentary formality. There was a list of jobs, problems, cases, or policies that were to be taken up for action.

The men sat together around a large table made by grouping three ordinary office tables together. Problems were taken up one after another, discussed freely, and disposed of. A member of the Regional Office acted as leader to direct the discussion, hold it to the subject, and make sure that it represented the thinking of the group, for group thinking seemed to be what they were after. In doing this the leader took little part in the discussion but frequently asked questions or took some other method of drawing out individuals or bringing the group back when it got too far from the subject or neglected some vital phase or point of view. The discussion was conversational--the men giving freely their own views or asking each other questions. Each problem taken up was disposed of according to its nature. It was first discussed so that action would be based on the fullest possible information, but always some action was taken--sometimes a policy recommendation, sometimes a standard or a program of action. A current record of actions, agreements, or compromises was kept so that each subject was finished as taken up.

I said that this was a work meeting, and that was the impression that one got at every session. There was an understanding in the beginning that the men would be expected to stand by and carry out anything recommended or agreed to. This seemed to be accepted in good faith and tended to eliminate theoretical discussion and pointless talk.

There were, of course, subjects of another character that could not be handled in just this manner. These included policies or standards or programs that had already been approved and were brought up to give each man a chance to assure himself that he understood just what would be expected of him. The expansion program in R-9 is continually bringing up new problems, which makes the job there somewhat different from what it is in the older, better established Regions.

Another impression I got was that the meeting accomplished a lot. Every hour was productive. The men would take up a subject dispose of it, and turn to something else. They set up some pretty big programs, agreed to a good many rather high standards and bound themselves to carrying them out. But after all the real test is yet to come. Will they carry them out? I have said that it was a productive meeting. It will be productive only after the things now on paper become realities on the ground. I believe most of them will.

THE MARKING OF LOCATION

By W. J. Sproat, Crater

No small amount of money is being expended by the Forest Service in the manufacture, posting, and maintenance of metal and wooden signs for the purpose of referencing section corners.

Correct map data are an aid for location purposes, provided the individual has been trained and has had practice in their use, but with these advantages it is often difficult to know by the map the distance one has traversed certain streams, trails, etc.

Accurate maps such as the U.S.G.S. half inch scale and the U.S.F.S. intensive resource surveys play an important part in the location of fires by the Lookout, but the smoke-chaser should have in addition certain accessible reference marks in order that he may capably follow such maps and perform his important part with the least hesitancy.

Fire Finding:

From my observation and interviews with "Smoke chasers" during the past season, it is apparent that the elapsed time used in hunting for the fire may be shortened. It is a fact that more time is often spent hunting for the fire than would be necessary to extinguish it.

I was surprised to learn that the smoke-chaser does not generally use the instructions given him at training school in regard to the compass and pacing method of finding a fire. He would like to use this method, but lacks confidence in his ability to employ it. His job does not require regular practice with the use of pacing, map study, or compass. It is often difficult for him to figure out his location on the map at a section line reference. When given the section, township, and range of a fire, he naturally takes the nearest trail and runs the chance of seeing the smoke from some high ground or possibly the top of a tree. He is often fortunate and arrives at the fire in a reasonably short time, but quite frequently the return time is much less.

Location Points:

A section corner that happens to be situated on a natural land mark such as the point of a butte, is used to great advantage when directing certain field work in its vicinity. The Smoke-chaser's plans for finding a fire are often made from the knowledge of the location point; before he starts. The same would be true provided there were intelligently placed location marks; for example, at a bridge, at a prominent point on road or trail, at edge of large burn, or at an important trail and ridge crossing, etc.

The idea of placing location marks at a bridge, or at a frequented spring, etc.; is not only for the purpose of locating that particular feature. Stops are more often made at such places, and such sites are most easily associated with the surrounding country and are more readily remembered.

Suggestions:

An inch pipe, somewhat similar to the G.L.O. iron pipe corner posts, with the section and forty lines ground into the brass cap, would serve for the purpose of a location mark. The scribed section would be set in oriented position and in certain instances a sign could be posted above it. The section number and the township and range as well as the cross in a ten acre or less subdivision of the section could then be stamped into the cap.

Advantages:

Horizontal orientation. Location on "Land Marks" that are accessible. Permanence. Requires no description for distances. Survey for installation does not need precise measurement.

SURE-KILL POISON FOUND FOR TROUBLESOME BUSHES

A poison for undesired bushes such as poison ivy and European barberry, quick and sure in its action yet clearing out of the soil after its work is through, was described in Cleveland before the meeting of the American Society of Plant Physiologists by Prof. R. B. Harvey of the University of Minnesota.

This new agent in man's chemical warfare against tough weeds is ethylene oxide, chemically related to the ethylene chloride which has been found very effective in hastening the ripening of fruits and vegetables. Professor Harvey discovered the value of ethylene oxide during the course of experiments with various ethylene compounds. He found that the oxide killed the fruits and vegetables instead of speeding up their ripening processes.

He tried the compound on some large barberry bushes, which are being harried out of existence in the great grain areas because they harbor the black stem rust of wheat. What he calls "depth charges" of ethylene oxide dissolved in water were sunk into holes pierced in the soil at the roots. A few days later the bushes were revisited, and in every case they were found to be in the last stages of the death struggle. About one and one-half ounces of ethylene oxide, diluted out to a ten per cent solution in water, sufficed for a large bush.

At present barberry bushes are fought either by digging them up, which leaves stray roots free to sprout again, or by dumping common salt at their roots. "Depth charges" of ethylene oxide, Professor Harvey concludes, seem to offer the best means so far discovered. - Science News Letter, January 3, 1931.

P.R. AS SHE WAS EXECUTED IN ALASKA

By Chas. G. Burdick, Tongass

A whaling station was built at Killisnoo, Alaska, on the west shore of Admiralty Island in 1880, thirteen years after the purchase of the Territory. North of Killisnoo about two miles was the Indian village of Angoon, peopled by a more or less warlike tribe that was steeped in ancient customs and superstitions. Also they had not acquired a great amount of respect for or fear of the invading whites.

In 1882 a Medicine Man from Angoon was taken on a "Show Me" trip on one of the whaling ships. A whale was sighted and the ship made its approach. Probably the ship's officers were so busy explaining the action to the M.M. that unknowingly an extra large charge of powder was loaded in the cannon. When the ship was in location and the whale came up to blow, the gunner touched off the harpoon cannon.

Contrary to expectations, the gun blew up, hurling fragments of iron in every direction. One of these the M.M. stopped. It is not recorded whether any of the crew were injured or not.

When the body of the M.M was returned to the tribe the Chief demanded that a white man be delivered to the Indians, a life for a life. This the whalers refused to do.

Farther south in Hood Bay were two white prospectors. These the Indians captured and took to Angoon for torture. The whalers learned of this and promptly dispatched a ship to Sitka, then Capital of the Territory, for aid. The U.S.Gunboat Waschusetts answered the call and arrived at Angoon before the two prospectors were sacrificed. A landing party put ashore, probably a squad of Marines, and effected a rescue. The Chief was also brought aboard the Gunboat.

After a parley between the Chief and the ship's commander, during which the Chief was quite belligerent, the Commander ordered the Chief ashore and gave him fifteen minutes to clear the village of all inhabitants, possibly five hundred. The Chief landed but no evacuation followed.

When the fifteen minutes were up the Waschusetts fired a warning shot or two into the village and the evacuation started. It was thorough and spontaneous. The Gunboat then proceeded to fire upon the village in great broadsides. This continued until every building was razed and lay in blazing ruins. Strictly an educational exhibition, of course.

Later the village was rebuilt but no more trouble was ever experienced with this tribe. I have one of the cannon balls fired that day in my office now that I show to natives when they call and become obstreperous.

Do P.R. pay. I say she do.

YE EDITOR DISCOVERS

The Forest Protection Board in Washington, D. C. held a meeting on February 9 and agreed on a program for compiling a fresh report for presentation to the Bureau of the Budget. The report will set forth the amounts previously requested for forest protection, appropriations made in comparison with the program laid down, and a list of recommended increases for the fiscal year 1933. As reports on financial needs for forest protection of the Federal Bureaus represented on the Forest Protection Board are regarded as confidential pending action by the Bureau of the Budget they cannot be given any publicity.

- - - - - - -

The California Forest Experiment Station has had under way for the past several years the preparation of a cover type map for the State. Already a large part of the State has been covered by crews from the Station, aided in many ways by the State, National, and County forestry organizations. This winter five crews are at work in the southern part of the State, on which are to be found members of the administrative organization, all from northern forests, and also rangers from the State Forester's organization.

- - - - - - -

How much "sugar coating" does the radio audience want with its information? Some radio educators have been insisting that information designed for the radio audience should be presented "on the level of 13-year olds."

In the case of agricultural information programs (in which the Forest Service is participating) the Department radio service has set out to determine just to what extent the pills of learning should be "sugar coated" and what kind of showmanship makes the most palatable pill. With the cooperation of Station WGY, Schenectady, N. Y., a series of programs will be broadcast during the next two months to compare the efficiency of nine different methods of presenting agricultural information. The radio audience will be the judge.

So that the Forest Service may also be of help in solving this problem of radio showmanship, it will be appreciated if members of the Service who have any good ideas as to the best type of informational program would send their suggestions to PR in Washington.

- - - - - - -

R. F. Grefe of Region 6 and H. M. Shank of Region 4 are in Washington for a six weeks' detail to the Branch of Engineering.

- - - - - - -

John D. Guthrie of R-6, who has been on detail to the office of PR for the past six weeks, left Washington on February 11 to join Fred Morrell in the South. Before returning to Portland, Guthrie will spend some time in the Southern and Gulf States on Public Relations work.

GAME AND FUR AND FORESTS

By C. A. Kutzleb, Routt

Most of us are dimly aware that we have with us a game management problem. To be sure we haven't had time to do much about it; but we certainly realize that, as guardians of those vast wildernesses, the National Forests, it is our duty to provide the sportsman with the opportunity and the facilities for having his picture taken with his foot proudly planted on his kill. Such is one of the inalienable rights of the American sportsman and maybe we ought to do something about it. A wonderful opportunity was missed in not having the sportsmen enumerated as such at the last census. We would now know whether sportsmen or sheepmen were in the majority.

What about fur and other wild life? Shall our carnivorous fur be exterminated to provide game for the sportsman, and if so, what will that romantic and hardy son of freedom, the Trapper, have to say? Shall he be denied his inalienable right of getting something for nothing? Shall we continue our policy of hoping for the best until the worst is realized and we find our wild life gone? Perhaps more and better wild life refuges are indicated. Why not limit the sportsmen to bows and arrows and the trappers to home-made traps?

Dear Mr. Stuart:

Thank you for your Report for 1930. I have read it with keen interest and with entire approval. I was especially impressed by your discussion of erosion.

With cordial regards,

Sincerely yours,

/s/ FRANK O. LOWDEN

A STORY OF THE OLDEN DAYS IN THE BUREAU OF FORESTRY

By Joe Santucci, Washington

In the summer of 1903 through the kindness of Mr. Pinchot I was sent to the Yale Summer School of Forestry at Milford, Pike County, Pennsylvania, as caretaker. I had my family with me. We had with us that year at the school Mr. Sudworth, Mr. Graves, Prof. Brewer and Mr. Pinchot - four mighty fine men. There were 25 students and a fellow by the name of Roy Marston who was in charge. Well Marston took these boys on hikes through the woods, teaching Botany. They were full of Botany - Botany for breakfast, lunch, and supper. There were some women in the town on their vacation who seemed to be interested in Botany (more Botany). They were always asking Marston questions on Botany and the women followed the boys on their hikes. Marston towards the end got tired of this, and, unbeknowing to me, decided to throw the professorship of Botany on my shoulders. (Imagine that) I think Barrington Moore was in on this trick that Marston played on me. One morning I came to the school rather early and found Mr. Marston there, this was unusual. I went in the school room, and the table where the Professor spoke was decorated with all kinds of flowers and leaves. I thought this funny, I never saw this before, I happened to look out of the window, and who should I see coming up the road but these women. They were loaded down with leaves and flowers, looked like they had the whole forest with them. Marston came out and said "Joe, here comes some ladies, put on your coat." I didn't wear my coat while working, but I obeyed orders. In walked the ladies and dumped everything on the table, and this is what they said, "Professor Santucci we understand you are an expert in Botany and you would give us any information we desired." I didn't know what to say, I was sort of petrified. Then I said, "Ladies I am sorry you have been misinformed as to my standing here at the school I don't know anything about Botany but I am h--- on vegetables." As they were leaving the school one of them remarked that Professor Santucci was well informed on vegetables.

RED CROSS-COMMUNITY CHEST CAMPAIGN IN WASHINGTON

The Forest Service "went over the top" in glorious fashion. The total of the goal in the Red Cross-Community Chest campaign was $1,950,154.40. A quota of $350,000 was allotted originally to the Executive Departments and Independent Establishments; but at the end of the first week Gen. Pershing, chairman of the Governmental Unit, accepted another $50,000, thus making the final Governmental quota $400,000.

The amount originally allotted to the Department of Agriculture was $24,039, the proportionate share of the Forest Service in this amount being $1,163.97.

The total subscribed by 215 employees of the Service - approximately 88.8 per cent of the Washington personnel - was $2,824.50, or 242.6 per cent of its quota. Of this amount $1,012.50 was paid in cash, the balance to be paid in the amount of monthly pledges. Of the 11.2 per cent of the personnel apparently not subscribing, about half contributed through some agency other than the Governmental unit.

Final figures for the Department of Agriculture as a whole have not yet been compiled, but on February 5 its contribution equaled 141.7 per cent of its quota. This figure will doubtless be raised when the final results are known.

Major Stuart in thanking and commending the Service for its response to the appeal said:

"The response of the members of the Forest Service to the Community Chest appeal was most generous and in keeping with the Service tradition of public spiritedness and willingness to help in public undertakings."

We do not know what our field offices have done but are sure their response was equally generous. - Edna F. Crocker

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 9 Washington, D. C. March 2, 1931

WHAT HAS THE DROUGHT DONE TO OUR FORESTS?

By F. H. Eyre - Washington

Members of the Service who live in the suburbs of Washington and who still have lame backs from carrying water because their wells were dry need no reminder that the 1930 drought was the worst of record in the Eastern United States. Likewise, those dealing with fire realize it only too well. On their books will be chalked up in red the acres burned and damage done. But there are other and perhaps less obvious results of the drought which need to be recorded.

A century may elapse before as good an opportunity will again be offered for observing such things as comparative drought resistance of the various tree species and size classes. The death of many seedlings and small trees will no doubt be apparent this coming spring and during the following year. Possibly the loss of reproduction on cut-over areas may be correlated with the past marking practice followed on timber sales. Mortality of seedlings and trees may and probably will vary with such things as aspect, slope, depth of soil, and density of ground cover.

Seed production in some places in the drought belt was reported as better than usual. This, however, may be due to favorable weather prevailing at the time of pollination, rather than to any other factor. But in other situations, the seed crop was reported as a complete failure. Much more data are needed in order to say just how drought influences seed crops.

Many an object lesson may be drawn from careful observation of recently established forest plantations in the drought area. In one plantation of Norway spruce established in the spring of 1930, it was noted that the transplants appeared thrifty in the fall where the sod had been cleared away for a foot or so around the stem of the plants, but where this measure had not been followed the grass had apparently exhausted the soil of all available moisture and the spruce transplants were dead.

Many foresters have noticed the decided drop in rate of growth of trees in the drought sections. It may be, too, that there has been and will be a direct relationship between dry weather and the seriousness of insects and fungous diseases this year.

The point I am getting at is that field-going men should keep their eyes open during the spring and summer of 1931 and should not pass up any chance of recording their observations of such points as those just mentioned. That the results obtained in this way may decidedly influence the practice of forestry in the section of the country where the conditions were noted is perfectly obvious.

CAVALRY CRUISING

Although cars are being used more and more in ranger district administration, horses are still the "backbone" of travel in many places and on many emergency calls such as those involved in fire control work. The following digest of a description by Commander H. H. Frost of the cavalry in action on one of its harder trips should therefore be of interest to the saddle and slicker men in our organization.

"Today the march will be a long one. The horses carry, in addition to their riders, about 100 pounds of equipment. For about fifteen minutes the troop proceeds at a walk to shake down the equipment. Then it halts and the men dismount. In the darkness there is a careful examination and readjustment of equipment.

"And all is set for the real work of the day; a hike of 50 miles by map. The time allotted is between eleven and thirteen hours, including all halts. Allowing two hours for the midday halt, this requires a rate of about 5 miles an hour. And this is a good speed to be sustained for 50 miles or more.

"The troop sets out into the darkness, each man leading his horse. After leading for fifteen minutes the men get into the saddle. Then comes the command. They trot along at a steady 8 mile pace - 3 feet from nose to tail. Their riders have a short and firm grip on the reins to give them instant support if they should stumble.

"For miles we had fine hard-packed moist sand to march over. But now a new difficulty began to make itself felt: A continuous succession of rather steep hills. These probably doubled the expenditure of energy per horse per mile. A troop or larger unit is much more affected by hilly country than a single horseman. The latter can pick the down grades and level stretches for his trots and can walk or lead up the hills. A troop, spread over several hundred yards, can not do this. Where the country is fairly level its commander can frequently adjust his gaits to the ground.

"But where the hills follow in continuous succession he must virtually stick to a time schedule and take them as they come. So in the course of a twelve minute trot we might have to climb and descend four or five fairly steep and high hills. This punished the horses terribly. Despite the cool morning their sides were lathered in sweat.

"We were now nearing our midday halt. We dismounted, loosened cinches, and led the horses in for the last mile. We had covered 23.3 miles by map.

"As the horses turned to on the hay their saddles were taken off. The saddle blankets were left on to prevent the horses' backs from being dried too quickly in the cool air. Sergeants produced from their saddle bags bottle of red liniment. We rubbed this into the horses' legs while they munched away calmly at their well-earned hay. After ten minutes of this massage the saddle blankets were removed; then the backs were patted and rubbed until entirely dry. A thorough grooming was next in order. Each squad in turn now led its horses down into the stream to drink. When they were again secured to the picket line nose bags were filled with oats and fastened over their heads.

"All this work on the horses had taken about one hour and a half. Now it was time for the soldiers to get their lunch. This the mess sergeant had provided in rare abundance. After the food had been gulped down we went back to the picket line. Horses were saddled and bridled. Equipment was adjusted. We led out into the road for our return journey: 27 miles. Just as we started the rain began. Soon the red clay roads which had made such fine footing earlier in the morning were covered with an inch or more of slippery mud. This layer became thicker and thicker as we marched on. On the steep grades, where the mud was thin, the horses' feet slipped with every stride. On the level stretches, where the mud was deep and sticky, it gripped their feet like glue. As we dismounted to lead, we stumbled and slid through the mud alongside our horses. Boots were caked with sand and clay. Frequent inspection of the horses' feet had long since covered our hands with grime and grit. But all this was a picnic for us compared with the work of the horses. The rain and mud must have doubled their toil already severe enough. Those long trots over that continuous roller coaster of slippery hills must have been a very h--- for them. Horses were carrying dead weights of 200 pounds. And these weights, except for our midday halt, had never been off their backs. These last miles were hard ones.

"Excluding our two-hour midday halt, we had covered about 54 miles in 10¾ hours. This average of five miles an hour is a very good rate of march for cavalry with full equipment. But under our difficult conditions of hilly country and muddy roads the troop had made a highly creditable performance. Next morning a board of three officers inspected the horses and pronounced all fit to continue the march."

GAME MANAGEMENT ON THE PISGAH

By R. R. Hill, Washington

While the need for better management of game resources throughout the country is generally recognized, the demand for outdoor recreation from the large centers of population makes this an especially important problem in the East. The role of wild life in the administration of the National Forests in this Section is enhanced by the fact that the forests here, unlike many of those in the West, are unsuitable for extensive domestic livestock production. Therefore, except in the vicinity of settlements, economic use of the limited forage resources must be made, if at all, by game animals. An unusual opportunity for the Federal Government to develop and apply sound principles and practices in the administration of eastern wild life resources exists on the Pisgah Federal Game Refuge which includes about 100,000 acres of the Pisgah National Forest in North Carolina. Jurisdiction over game within this Refuge was ceded by the State to the Federal Government in 1915. The problems of wild-life administration are representative of those throughout the eastern section of the United States. Essentially these problems involve:

What species of wild-life and how many of each occupy the land?

What species are suitable and how many of each will the area support without injury to other resources.

What is the best practical plan for regulating the number and distribution of each species and controlling its enemies?

Recently a conference was held on the Pisgah to consider game management problems. Representatives were present from the U. S. Biological Survey, Southern Forest Experiment Station, the State Department of Conservation and Development and the Forest Service. Interest in game management there centers around the herd of deer, which has increased from about 1,000 head in 1915 to about 5,000 head at present, and the important fishing resources. The deer are too heavily concentrated on parts of the refuge and too scarce elsewhere. Plans were considered for obtaining more accurate information regarding the feeding habits of deer; the amount of deer feed available: the possibility of growing supplemental feed such as hay, apples, etc., on abandoned farms within the Forest; means of regulating numbers and distribution of deer by trapping, restricted hunting, salting, etc., means of controlling predatory animals, diseases, and other adverse factors.

Encouraging accounts were given of the progress in trapping deer that has been made during the last year by both Federal and State officers. Recently State officers trapped about 50 deer, losing only two head, while Forest officers trapped and crated 22 head with a loss of 3.

The local game wardens were keenly interested in demonstrations of the most successful methods of trapping, snaring, and poisoning predatory animals that have been developed in the West by the U. S. Biological Survey.

It was expected that as the number of deer increased on the Refuge there would be an increasing overflow which would gradually repopulate that general territory with deer. Private hunting clubs with holdings adjacent to the Refuge, together with many hunters from neighboring settlements, however, have prevented any important migration of deer. This situation presents a special problem in the way of protection against poaching and providing practical means whereby the general public may benefit from the increasing supply of deer.

Much valuable information regarding the rearing and transplanting of fish under conditions that prevail in North Carolina has been obtained by the U. S. Bureau of Fisheries and the State officers and will be invaluable in developing and managing the fish resources on the Pisgah. The prospects appear favorable for obtaining adequate hatcheries and rearing ponds from which the Pisgah streams may be stocked. The greatly improved technique of rearing and transplanting fish should insure very satisfactory results in this work.

The keen interest and the cooperative spirit that prevails among the several public agencies and local communities with regard to wild life management, together with the centralized authority necessary for effective administration, point toward real progress in game management on the Pisgah.

SHOULD PRIMITIVE AREAS BE ADVERTISED

By L. F. Kneipp, Washington

The Washington office recently has received two reports upon proposed primitive areas in which the specific plans of management emphasize the desirability of giving to the areas the widest practicable publicity. In both cases it is apparent that a program of extensive advertising of the primitive areas is desired by the local commercial organizations, who evidently regard the areas as local assets of considerable importance and as means of markedly stimulating the tourist business in the regions of which they are parts.

There is, however, a strong disposition on the part of the advocates of the primitive area idea to question the desirability of such publicity. To begin with, they argue that excessive use of a primitive area will defeat in part at least the very purpose for which it was established, since the presence of large numbers of people will of itself result in substantial modification of natural conditions. Then, too, many people attracted and intrigued by the probable publicity will find upon reaching the area that they are incapable of meeting the physical and other requirements involved in its exploration or are unwilling to endure the primitive conditions, and will at once clamor and work aggressively for the establishment within the area of high speed roads, modern resorts, etc., thus again nullifying the very purpose for which the areas were established, or thus imposing upon the Forest Service the embarrassing duty of defending its policies and plans.

If the areas under consideration were the only areas available for public use, there could of course be no justification for a policy which reacted against the best interests of the majority. Since, however, the primitive areas would involve only a negligible percentage of the National Forest lands, and since the majority who desire high speed roads and modern resorts are having their desires abundantly satisfied on the greater part of the National Forest lands there seems to be no inequity in dedicating the primitive areas to the types of use to which they are adapted and to the minority who find within such areas the types of exploration and outdoor recreation which most strongly appeal to them.

However, this is merely one point of view, although a somewhat general one. Possibly those members of the Service who inhabit the great open spaces have other views on the subject which would be welcome contributions to the general thought and particularly to the Service Bulletin.

A BIG PROFIT ON A SMALL INVESTMENTT

By Albert Wiesendanger, Mt. Hood

The American Red Cross recently conducted a two weeks' course in first aid at Portland, Oregon, and the benefit which I received is far in excess of the time and effort expended - particularly when a Ranger considers he has gained knowledge which may save his own life or that of a fellow worker. Sessions were held every night for a period of two weeks. An examination was given on the last evening of the course. In addition to lectures delivered by various doctors before the class all of us had to perform actual first-aid work. Such a course should be vitally interesting to every Forest officer, and whenever possible should be taken advantage of.

Accidents have cost the Government large sums of money each year. Our records on the Mount Hood show a large increase in compensation cases, and no doubt this is also the case on many of our other forests. In region 6 the Fiscal Agent reports 357 Compensation for injury cases during the year 1930. The present legislature of Oregon is recommending that workers permanently disabled in Oregon industrial accidents under the jurisdiction of the State industrial accident commission receive a higher monthly pension, if a recommendation on compensation is adopted.

Everyone should take an interest in bettering matters in this respect. Can it be done? Most certainly it can. How? By learning the right way to give first aid to the injured.

The primary object of first-aid instruction is to prevent accidents by educating the individual to use what care may be necessary in the special circumstances or environment; then, too prompt treatment is in itself a measure of prevention for if the right thing is done quickly the injured person is at once put in condition to derive the most value from the services of the doctor.

Already a large number of our most progressive companies have made teaching of first and established policy.

Very lately the American Red Cross has arranged with the War Department to give first-aid instruction to Army training camps. Cooperation with other Government Departments has been active also.

It may not be possible to give the complete course at our guard training camps, owing to the large number of activities covered and the short time we have for training our men. However, first aid should be included, since there are many things which if properly explained to our men would assist greatly in preventing accidents and rendering first aid to an injured person.

On every project fire it would be to the interest of the Government to send out a medical student or some one trained to render first aid.

Forest officers should take advantage of the cooperation being given by the American Red Cross and whenever possible request through their local chapters that one of their instructors in first Aid attend our training camps.

YE EDITOR DISCOVERS

A meeting of the National Forest Reservation Commission has been called for February 25, at which time a program of purchases of lands involving almost one and a quarter million dollars will be submitted. It is also planned to bring before the commission a proposal to establish three new purchase units in the State of Wisconsin and to enlarge the present Oneida Unit in that State. If these proposals are approved they will for the time being complete the National Forest program in the Lake States.

At the last meeting of the commission, Secretary Hurley and Secretary Wilbur expressed a strong conviction that the mineral Resources in the lands acquired under the Weeks Law and the Clarke-McNary Law will have a large future value, and that consideration therefore should be given to the idea of acquiring or extinguishing the mineral rights hitherto reserved by vendors or outstanding in third parties. In conformity with their request the Solicitor is now preparing a memorandum discussing the legal aspects of such a policy, and the Service is preparing a memorandum on its administrative aspects. It is probable that this subject will receive careful attention at the next meeting.

- - - - - - - -

House Joint Resolution 284 introduced by Delegate Houston of Hawaii has now passed both Houses of Congress and is before the President for final action with a letter from the Secretary of Agriculture recommending its approval. The purpose of this bill is to extend to the Territories of the United States the provisions of Sections 1 and 2 of the Clarke-McNary Law which at present are not regarded as applicable to the Territories.

- - - - - - - -

When the Uinta Indian Reservation in eastern Utah was opened to entry in 1906, 1,010,000 acres thereof was included in the adjoining National Forests under proclamations by President Roosevelt, which provided that during the ensuing 15 years all receipts from the sale of timber from the lands thus added would be paid to the Indians. The Uinta basin is wholly without railroad facilities, hence tributary timber is utilized only to meet local needs, which are small. As a result the timber sale receipts during the prescribed 15 year period amounted to a little less than $63,000. The grazing receipts during the past quarter century have amounted to something over three quarters of a million dollars but did not revert to the Indians.

During the past year the Bureau of Indian Affairs has been making a determined effort to effect equitable adjustments of Indian interests and rights through the extension of Indian Reservations and through the collection of payments believed to be due Indians. As a part of this program a bill was introduced to pay the Indians at the rate of $1.25 per acre for those lands taken from the Reservation. There was some debate as to the advisability of restoring the land to the Indians for possible incorporation in an Indian forest, but strong representations against this action were made on the grounds that under National Forest administration the lands had become a part of the economic resource and structure of the region so that the termination of established forms of use would adversly affect the local interests.

- - - - - - - -

A study of farm lands in Oklahoma by the local agricultural experiment station revealed that of 16,000,000 acres, 13,000,000 were suffering serious erosion losses. Of the 13,000,000 acres damaged, the survey showed that 374,000 acres were ruined beyond repair and 5,700,000 acres severely gullied. During the past four years 1,700,000 acres of land have been taken out of cultivation - 1,300,000 because of erosion.

ACT AMENDED PROVIDING FOR REIMBURSEMENT FOR HIRED EQUIPMENT LOST, DAMAGED, OR DESTROYED

The Act of March 4, 1913 providing for reimbursement for the loss, damage, or destruction of hired equipment, was recently amended by Congress and approved by the President. As amended authority is granted the Secretary of Agriculture to allow such reimbursement throughout the period of hire rather than merely when the equipment is in actual use. The Secretary is also authorized by the amendment to hire or rent property from employees of the Forest Service and to provide forage and housing for the official stock of Forest officers and storage for Forest officers' motor vehicles used extensively on Government work.

The amendment to the Code is known as "An Act to facilitate and simplify the work of the Forest Service" and reads in part as follows:

"The Secretary of Agriculture is authorized, under such regulations as he may prescribe:

"(a) To hire or rent property from employees of the Forest Service for the use of officers of that service other than use by the employee from whom hired or rented, whenever the public interest will be promoted thereby: Provided, That the aggregate amount to be paid permanent employees under authorization of this subsection, exclusive of obligations occasioned by fire emergencies, shall not exceed $3,000 in any one year.

"(b) To provide forage, care, and housing for animals, and storage for vehicles and other equipment obtained by the Forest Service for the use of that service from employees.

(c) To reimburse owners for loss, damage, or destruction of horses, vehicles, and other equipment obtained by the Forest Service for the use of that service from employees or other private owners: Provided, That payments or reimbursements herein authorized may be made from the applicable appropriations for the Forest Service: And provided further, That except for fire-fighting emergencies no reimbursement herein authorized shall be made in an amount in excess of $50 in any case unless supported by a written contract of hire or lease."

There is no authority to incur expenditures under this act until the Secretary promulgates the governing regulations. This matter is now being given appropriate attention.

FOREST OFFICERS PRAISED

By C. E. Rachford, Washington

As a general rule it is difficult to determine whether travelers on the National Forests are really appreciative of the courtesies shown and work done by Forest officers. This is true because of the general disposition of the traveling public to accept this service as a matter of course. We sometimes wonder if, after all, our efforts are worth while. It is therefore encouraging to receive such comments as the following:

"I am not sure that the Rangers in the Kaibab are under your jurisdiction, or just who has charge of them. If it is not you, I would appreciate your handing this letter to their Washington superiors.

"Mr. Van Boskirk at Ryan, and Thursby at Big Saddle are a couple of the most accommodating Forest Service men that one could desire. The assistance they rendered us, perfect strangers to them, was certainly appreciated by Dr. H. W. Bell, Attorney J. W. Heard, Jr., of Bakersfield, and Jim Bechtel of Kernville, my companions. These boys rank in the same class as Frank Cunningham of Poterville. In fact, all of the Federal men located in the Forest rendered us the finest unsolicited assistance, and I want to congratulate the superior officer in charge of them for his perfect selection. They are most certainly a credit to the fine branch of the Service they represent.

"Very sincerely yours,

F. E. Smith, County Clerk."

EDWARD C. PULASKI

The Northern Region announces with sorrow the death of Edward C. Pulaski on February 2, at his home in Coeur d'Alene, Idaho.

Mr. Pulaski was the direct descendant of the Polish count, Pulaski, who fought in the American Revolution.

In July, 1908, he entered the Forest Service, and served with distinction in the River District of the Coeur d'Alene National Forest, until his retirement in February, 1930. He leaves a wife and an adopted daughter, who is married and living in Coeur d'Alene.

He was one of the most distinguished and highly esteemed Rangers in the Service, known best, perhaps, as the hero of the 1910 fires, during which his fortitude and courage enabled him to save the lives of most of the men under him fighting the flames. Five only perished, because they failed to carry out his instructions.

When it became apparent that the battle was lost, Mr. Pulaski led the terrified crew to a mine tunnel and held them there at the point of a gun until the fire passed. In so doing he took no thought to self, and nearly lost the sight of one eye, which was permanently injured. His courage on this occasion brought him national recognition. — E. A. in R - 1 Bulletin.

HIGHEST MOUNTAINS

By M. L. Merritt, R. 8

In a recent number of the North Pacific Ranger was a list of "Thirteen Highest Peaks in the U. S. and Possessions" headed by Mt. McKinley 20,300, Alaska; followed by Mt. Whitney, California; Mt. Elbert, Colorado; Mt. Rainier, Washington; etc., with the Federal Board of Surveys and Maps cited as authority.

Far be it from me to question the accuracy of the information furnished regarding the peaks named, but the list appears to be far from complete. Information from the U. S. Geological Survey shows a number of named and well-known peaks which should be included in the lucky thirteen. From this authority I submit the following corrections of the biggest and best:

Mt. McKinley	20,300	Alaska
Mt. St. Elias	18,008	"
Mt. Foraker	17,000	"
Mt. Bona	16,420	"
Mt. Sanford	16,206	"
Mt. Blackburn	16,140	"
Mt. Vancouver	15,700	"
Mt. Quincy Adams	15,360	"
Mt. Fairweather	15,300	"
Mt. Hunter	14,960	"
Mt. Hubbard	14,950	"
Mt. Bear	14,850	"
Mt. Alverstone	14,500	"

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV No. 10 Washington, D. C. March 9, 1931

TWENTY FIVE YEARS SERVICE

By J. M. Cuenin, Cochetopa

During the last of the year 1904 the newspapers were full of the creation of Forest Reserves. The Saguache papers gave acoounts of one. A Mr. John Hatton was looking over the field and laying the boundaries of the Cochetopa, San Isabel, and Wet Mountain Reserves. (Considering altitude limits and time given, a very creditable job was made of it.)

My brother and I had been considering for several years going into the sheep business. Here was an opportunity to look after the sheep and Uncle Sam's business at the same time. We were working a mine at the time, and I was drawing $5 per day and board for my family as engineer, assayer, and blacksmith. We had sold a mine and had saved quite a little money. It was decided that I was to take the ranger job and he was to look after the mining end. Ralph Shellabarger was Supervisor of the above Reserves. He had formerly been a Ranger under the Department of the Interior, on the San Isabel Reserve, but the boundaries had never been definitely settled. Upon the creation of the above Reserves he was made Supervisor. As he was a friend of mine, I wrote him about the middle of June, 1905 for necessary blanks and information pertaining to the ranger examination. The examination was held at Sargents, Colorado, and field tests were given on what is now the Longbranch Ranger Station, on the Cochetopa, the latter part of June, 1905. When I arrived the examination was in progress. John Hatton was giving it. He asked for my card admitting me to the examination, and of course I had it not. He said that he would meet me at noon. At noon he wired Washington for permission for me to take the examination. That evening I met him at the schoolhouse to take the examination, under a hanging lamp that threatened to blow up at any moment. The only ones left in the Service who were appointed as a result of this examination are: C. J. Stahl, Assistant Regional Forester; H. N. Wheeler, Lecturer; and myself. They were appointed guards on the Gunnison, and later, C. J. Stahl was made a Ranger on the Cochetopa.

Upon my return to Bonanza, I found a little purple paper (no change in all these years) stating that I had been appointed a forest guard, to take effect July 1, 1905, at a salary of $720 per annum. I cannot say that I was much elated over the proposition, for here I was exchanging a $5 per day and board job for one paying $2 a day and nothing furnished. A few days later I left for the Supervisor's office at Moffat, to fill out the Oath of Office, get supplies and instructions as to my duties, etc. I was assigned the Tomichi, Bonanza, and Saguache country north of Saguache Creek. My supplies consisted of a few forms, twice the size of our present 26's - free use and special uses were the size of letterheads, - an old hatchet with the U. S. stamp about worn out, and a U. S. badge nearly twice the size of the ones now in use. A night or so after going to work, the Superintendent of the Josephine Mine came to see me regarding the purchase of 200 cords of dead bristle-cone pine firewood. The next day we started by team for the Supervisor's office and found this card on the door: "Gone to the Wet Mountain Reserve, be back next week." I made the sale on the blank provided. The Form 861-D was about the size of our present one and was sent to Washington, D. C.

The stockmen and miners were disatisfied, and were going to have the Cochetopa annulled. Being pretty well known, having been elected as County Surveyor three terms in Gunnison and two terms in Saguache Counties, I came in for some pretty hard comments at times. The citizens of the two above mentioned counties were having frequent meetings and we were invited to attend. Sometimes Shellabarger and I would go. Of course they really believed that they could have the reserves abolished, and especially so as one John Lawrence owned all the sheep on the reserve. He was also a State representative, and was thought to have had considerable influence in such matters. At Bonanza the miners circulated a petition to throw out the Bonanza District and everyone in the locality signed it. This called for another report from Mr. Hatton. I told them at the time that the reserves had come to stay and that their petition would meet with little success, whereupon they would point to John Lawrence. He could and would fix it, and I would have to go back to mining.

The cattlemen around Saguache were about the same only that they did not say they were not going to take this range or that or that they had the first right and that the fees were too high and they would not pay them, etc. We usually came out having our way, although there was considerable jealousy on the part of some.

The first man in the Service I met, with the exception of John Hatton, was Earl H. Clapp, of the Washington office. That was in August, 1905.

In the spring of 1906, the ranger examination was held at Salida. Supervisor Shellabarger rode over from Moffat on horseback, so that he would have a horse to use in the examination, as each one had to saddle, ride, and pack his horse. I was directed to send over the bed and other equipment. I put on a franked tag and took it to the train and put it in the mail car. The bed weighed between 200 and 250 pounds (Is it a wonder we were cut to 4 pounds?). A day or so afterwards I received a telephone call from Shellabarger to come over and help rate papers as he had to get them out that night. I took the train, arriving at Salida about 5 p. m. I found Shellabarger hard at work. We worked until 2 a. m. before all papers were rated. Twenty three took the examination, and of that bunch only two remain in the Service: Tibo Gallegos, Ranger on this Forest, and E. N. Kavanagh, Assistant Regional Forester in Region 6. (I paid my own expenses, consisting of train fare and subsistence over and back.) The first week in March, 1906, I was detailed to report on a prospective timber sale in Lick Park, 16 miles south of Gunnison. After looking over the timber I set the stumpage price at $3.50 per M. ft., B. M., which the prospective purchaser refused to take at the price. He had skinned the country before the creation of the Reserve.

I called at the Gunnison Reserve office and found Supervisor William Kreutzer and Guard Perry Snodgrass hard at work making out grazing permits, having just received their USE book, to which they were referring quite frequently. They were pounding out the permits on a No. 3 Oliver, and I longed for one for our office (instead of the old No. 6 Remington invisable machine) and later I had the satisfaction of boxing it up and receiving a No. 5 Oliver). Shellabarger resigned the latter part of 1906 Eugene Williams, Acting Supervisor of the San Isabel Reserve, was transferred to the Cochetopa Reserve. As Moffat was not as conveniently located, we received orders to move headquarters to Saguache. Williams and I hitched up our teams and moved the equipment to Saguache. I was left to straighten up while he went after the balance of the goods. We had a nice assortment of calendats and pictures on the walls at Moffat. These were placed in the new office. The only thing missing was the 300 words of simplified spelling that ornamented the wall back of the typewriter. Williams was detailed to Washington for several months and I was made acting supervisor. We were furnished a Forest Assistant, who happened to be W. J. Morroll, now State Forester of Colorado, during the fore part of 1906, but he was transferred to the Rio Grande shortly afterward. He was the first and only technical man we had on this Reserve for several years. When the District offices were created we were furnished a stenographer for a short while. In June, 1907, J. W. Dilley, Chief of Maintenance, Denver, was sent to us as clerk and stenographer. Mr. Dilley landed one day and that evening V. W. Campbell arrived. Think of a twenty mile drive nowadays behind a team, hitched to a heavy wagon. After looking over the walls, Campbell made the remark that we had a nice lot of pictures on the walls. One picture I remember in particular - a three-toned lithograph of a fine looking young lady sitting on a table, a glass in one hand, and a wine bottle in the other. I can remember that little smile when he asked me if we had not received several bromides. I stated that we had and that they were in the closet, whereupon he asked if I did not think that they would look better on the walls than our present adornment. I agreed, and the transformation was soon made. The Cochetopa had emerged from the backwoods to the city.

The fore part of 1908 I was detailed to go to Salida and make a survey and report on the James Ragen placer claims, as Ragen was trying to ranch and hold the ground under the placer locations. I explained to him that he was trespassing and told him I had come over to make the survey and report before going back. At the east end of the claim he wanted to go farther down the gulch. I told him that we had run a mile and that there was no law authorizing me to exceed that length in a claim. He did not say anything at that, but I knew by his looks that he would like to strangle me. Ragen had killed two men that I knew of, and possibly more, and I did not like the idea of being another.

In my report he found out that I had excluded the timber. Well he was some wild Irishman, and I got word that if I ever was caught in that neighborhood he would shoot me. Of course, I did mind being shot; but I was a long way off and felt that the next time I saw him he would have cooled off. In 1911, I was transferred to the Poncha District, and about the first thing I heard was that Ragen was cutting timber on the Forest. With a pocketfull of 38 cal. Specials and "Old Trusty," I started out, very much against the will of the Mrs., to see Ragen. I met him about one mile from his place in a stalled auto, and I must say that he started in rather rough when he saw me. Climbing out of his car, he came at me, using words that were not nice, and I expected him to jump me right there. I told him to sit down, that I could not talk standing. We both sat down. I told him that he had had his say, and that now I was going to have mine. He said that he had not been cutting off his land and that he had only cut some aspen in clearing his land. I went up and found that he had told the truth. I can imagine Mrs. Cuenin's suprise when I brought Ragen home to dinner. Chester Campbell and Fred Stell, our present Junior Range Examiner, were sent in November, 1913, to make final survey. The next day they came out without making the survey. I never knew the reason, but suspected that Ragen told them that they did not need to bother. He left for Colorado Springs to sell his place in 1925, and in stepping off one auto was hit by another and killed. This was a great relief to the Italians in the neighborhood, as they were all afraid of him.

The creation of the Cochetopa at the time was about the best thing that ever happened for this section of the country.

Timbermen were cutting ties and props in the vicinity of Marshall Pass in 1903-4 and were planning on setting the timber in that locality afire the next year in order to burn out the timber that had rotted so that they could get around easier. There is no doubt that they would have done so; for men that had held up a passenger train and committed murder would certainly have no contrition in setting out a few little fires.

We moved to Gunnison in June, 1880, and up to 1889 it was not unusual to look out during the summer and fall and see fires burning somewhere; and the sky would be overcast with smoke for weeks at a time. In October, 1897, while at the Doctor Mine on Spring Creek, Gunnison County, a fire broke out about a mile or so north and burned for several days. While there were some 25 or 30 men employed on the mine, no disposition was made to put it out. Shortly afterwards a 16 or 20 inch snow put it out. Nearly every fire during the early days was put out by the snow in the fall.

I have never regretted going into the Service. The rough and disloyal have been weeded out, and I do not think that a more loyal bunch was ever banded together. The early days saw its hardships, but those in the lead never tired in trying to better our conditions, and how well they succeeded can only be seen by looking into the past.

NATIONAL FOREST RESERVATION COMMISSION MEETS

By L. F. Kneipp, Washington

The National Forest Reservation Commission at its meeting of February 25 approved a purchase program involving 290 cases, with an aggregate acreage of 254,022 acres at an average price of $4.67 per acre, or a total aggregate cost of $1,186,159.40. These lands are located in 26 separate purchase units and their acquisition will markedly promote the effective administration of those units.

At the previous meeting of the commission a question was raised as to the propriety of the prevailing policy of accepting lands subject to reservations or exceptions of mineral rights in cases where the vendors were unwilling to relinquish such rights for the prices the United States was willing to pay for the lands. Following the receipt of an extended analysis of the legal aspects of the situation by the Solicitor of the Department and a memorandum from the Forest Service discussing its administrative aspects, the commission decided that no change should be made in the prevailing policy but that lands subject to mineral reservations or exceptions should be acquired where such reserved rights do not impair their value for streamflow protection or timber production.

Another question to which the commission gave extended consideration was that of initiating purchase work in the new Green Mountain Unit in southern Vermont. The lands in this unit are well timbered and therefore have a higher average value per acre than the lands hitherto acquired or subject to purchase in other units. This gave rise to the question as to whether the acquisition of such lands represented the best investment of the available acquisition appropriations, or whether it would not be preferable to use available funds for the acquisition of other less heavily timbered and, therefore, less expensive lands. An imposing delegation from Vermont, including Senator Partridge, Representative Gibson, and a number of other gentlemen, was present to advocate the approval by the commission of the initial purchases in the unit. After considerable discussion, the commission approved the purchase of eight tracts of land containing 31,228 acres at an average price of $11.02, or a total cost of $344,075.50. These lands lie in a relatively compact body, are of high forest quality, and provide by their excellent stands of timber a splendid opportunity for the early initiation of intensive silvicultural management.

A proposal to establish three new purchase areas in Wisconsin and to make a substantial addition to the existing Oneida Purchase was not approved by the commission, which felt that before any more purchase areas are approved there should be a broad study of the whole purchase program east of the Great Plains and a final determination as to its most urgent requirements.

The commission did, however, approve the abolishment of the original Vernon Purchase Unit in southern Louisiana, where purchases hitherto have proved impracticable, and the establishment in lieu thereof of a new Vernon Unit of approximately the same area situated some 30 miles or so to the southeast of the original area.

As a result of the February 25 meeting all but approximately $500,000 of the appropriations for the coming fiscal year already are obligated, and until the 1933 appropriation becomes available further purchases necessarily will be limited to small consolidations practicable of accomplishment with the uncbilgated half a million dollars remaining out of the 1932 appropriation.

WHAT ARE FARMWOODS?

By Ralph K. Day, Central States For. Exp. Sta.

Fred Morrell, in the January 26th issue of the Service Bulletin expresses exceedingly strong doubts as to the prediction of some forester who states that 90 per cent of the woodlands of a certain State will have disappeared in not to exceed 25 years unless present practices as to fire and grazing are radically changed. I have not read the article in question, do not know the State, and consequently am not in a position to judge the value of the prediction; nor is it my purpose to question Mr. Morrell's doubts. However, I have made a similar prediction as regards certain sections of the Central States and feel that I had better "spike" any guns which might be trained in my direction, by showing that such a condition is not impossible, and in fact does exist in many of the better agricultural districts of the Corn Belt.

Within the area of the Wisconsin glaciation in western Ohio, and north and north central Indiana, the Census figures for 1910, 1920, and 1925 indicate that the area of farmwoods is decreasing at an average rate of more than 2 per cent per year. These figures include land which has, through abandonment, passed out of farm ownership, but this is a negligible amount on these rich glacial soils. Theoretically at this rate these farmwoods would completely disappear in less than 50 years.

The disappearance of woodlands is not due to clearing of more land for agricultural use but usually is the result of the final clearing off of the remnant stands which occupy thousands of acres of woodland pasture in the region. Unfortunately the Census figures do not give a true picture of the situation. During the past summer over 500 farmwoods in thirty-two counties in north and north central Indiana were visited. According to the 1925 Census of Agriculture, the total area of farm woodland in these counties was 1,110,931 acres, or 14.5 per cent of the total area of farmland. But after having covered this area quite thoroughly, I am satisfied that fully 50 per cent of the grazed areas classified as woodland in the richer agricultural sections of these counties have not produced anything other than fuel, and possibly fence posts, for many years and have reached the condition where they are incapable of being regenerated except by planting. The definition for the term "woodland" used in the Census reports is so broad that the farmer frequently reports in this class all land which was at one time in timber, has never been broken, and still contains scattered trees. On a sixty mile drive through this region, 107 so-called woodlands were observed of which only 5 were ungrazed or had not been grazed in the last 10 years. Forty-six of the grazed areas had been pastured sufficiently heavy to have eliminated practically all reproduction and to have developed a distinct grazing line. The remaining fifty-six had evidently been pastured continuously for many years; for they were open, park-like stands with a complete sod cover established, and contained large, over-mature trees of practically no value for timber production.

This brings up the question, "What are farmwoods?" The Bureau of the Census defines "woodland" as, "including all farm woodlots, natural or planted, and cut-over land with young growth, but excluding land having only chaparral or woody shrubs." This is obviously a generic term and is too broad for practical use. A "forest" is defined by the Committee on Forest Terminology of the Society of American Foresters as a "tract of land more or less extensive, covered more or less densely with trees of useful character, viewed from the standpoint of economic use and development." A "woodlot" is defined as "any small tract of forest, usually the forested portion of a farm." Both of these last two definitions imply that the land be more or less densely covered with trees of useful character.

Accepting these two requirements in defining farmwoods, it is evident that fully half of the so-called pastured woods of the better agricultural sections have already reached the condition where they cannot be regenerated by natural means, are incapable of continously producing forest products, and have declined from "more or less densely stocked stands of useful character" to open park-like stands of unmerchantable trees.

Considering the fact that the woodland pastures of these rich farming districts are carrying on an average at least five times as many head of livestock as there is vegetation to support, it is also clear that those farmwoods which have not yet reached the above condition are headed in that direction at an alarming rate.

This does not mean that the trees will completely disappear from these areas in twenty-five, fifty, or even a hundred years, but it does mean that under present grazing practices these areas are rapidly passing out of the picture, as even potentially productive woodlands. In fact, many of the smaller areas are nothing more or less than "dry lots."

It is evident that foresters of this region, depending largely on the Census figures for their source of information, have been carrying on their records millions of acres of such wooded pastures. If they would recognize this fact, and cross out such areas from further consideration, they would be able to concentrate their efforts on those woodlots which are capable of being rehabilitated and brought back to a productive condition.

YE EDITOR DISCOVERS

Ex-president Calvin Coolidge as newswriter, in his daily syndicated column, picked Washington's Birthday to put in his word for reforestation, as follows:

"If the Government ever needs to give work to the unemployed an enlarged system of reforestation would be a partial solution free from objection. It would not interfere with rates of wages or marketing of production in any of the existing industries. Operation could cease without loss.

"Every one knows we are rapidly exhausting our timber supply. The authorities state that of an original 800,000,000 acres of virgin forest only about 140,000,000 acres remain. Annually forest fires sweep over 12,000,000 acres. We are cutting off 10,000,000 acres more, which is about four times as much as is replaced by natural growth. We have planted less than 2,000,000 acres.

"The Nation and some of the States already have acquired much land for growing timber. Compared with what is needed only a slight beginning has been made in reforestation. Because it has no immediate effect and would serve no private interest, governments have been too slow to conserve, encourage, and replenish our lumber supply. Yet we can not maintain our present standards without a generous use of wood.

"Under the cooperation of Federal and local governments a national policy of reforestation should be adopted without delay."

- - - - - - - - -

Special use permittees on the San Bernardino and Cleveland National Forests no longer need fear that locations under the mining laws will interfere with their use and enjoyment of their special use areas. On February 14, 1931, the President approved the bill H. R. 13547 which provides: "That where a special use permit to use, for other than pasture purposes, a tract of land not exceeding 160 acres in area, in the San Bernardino and Cleveland National Forests, has been issued under the regulations of the Secretary of Agriculture, the lands so rented shall not be subject to appropriation, entry, alienation, or adverse use or occupancy, unless such permit is discontinued or revoked."

As originally introduced the bill contained no limitation as to area or class of use and was general in character. In reporting upon it, however, the Department of the Interior recommended the maximum limit of 160 acres and the exclusion of areas used for pasturage purposes. In its consideration in Congress, decision was reached to limit its application to to the two National Forests involved rather than to make it general in character. As a result the bill will not be as useful as if enacted in its original form. Nevertheless, it constitutes a precednet and does remedy the situation in two Forests where it was extremely acute.

- - - - - - - -

Through the enactment of the bill S. 615, which was approved by the President on February 13, 1931, and is now Public Law 622, 71st Congress, the various tribes of Ute Indians in the State of Utah are to be paid the sum of $1,217,221.25 for the 973,777 acres of lands which originally were part of the Indian Reservation but which were transferred in 1905 to the Ashley, Wasatch, and Uinta National Forests. This liquidation of equity of the Indians does not involve any disturbance of the National Forest status of the lands. The bill also provides that as to the remaining 36,022 acres, hitherto classified as coal lands, the Secretary of the Interior shall appraise their value and report it to Congress as the basis for further compensation to the Indians.

- - - - - - - -

In its contributions to the Community Chest fund campaign recently conducted in Washington, the Forest Service took first place among the other Bureaus of the Department in per cent of its quota. The Service quota was $1,163.97 and the total amount pledged was $2,834.50, or 244 per cent of its quota. The average subscription for the Department as a whole was 146 per cent of the quota.

THREE NEW NATIONAL FORESTS CREATED IN MICHIGAN

Three additional National Forests - the Hiawatha, the Marquette, and the Ottawa in the Upper Peninsula of Michigan have recently been created by Presidential Proclamation.

The Hiawatha, formerly the Mackinac Purchase Unit, will have a gross area of 270,071 acres in Alger, Delta, and Schoolcraft Counties. Of this acreage 178,564 acres remain in private ownership and are to be acquired by purchase as rapidly as agreements with the owners and funds are made available by Congress. Little virgin timber of large size is left on the lands included in this Forest, as most of them were cut-over or culled many years ago. Fires have also ravaged much of the land, so that the present stand over large areas is aspen. The area has considerable recreational value, but there is little land of value for farming within its boundaries.

The Marquette, formerly the Marquette Purchase Unit, will have a gross area of 275,986 acres in Chippewa County. Of this acreage the Government owns or is in process of acquiring 109,223 acres. The entire area has been severly burned and upon a large part of it planting will be necessary.

The Ottawa, formerly the Keweenaw Purchase Unit, will have a gross area of 252,551 acres in Houghton, Iron, Ontonagon, and Gogebic Counties, 80,059 acres of which has been acquired or is in process of being acquired by the Government. This Forest was formerly largely composed of privately-owned cut-over tracts. In completing this unit the effort is being made to acquire enough mature and second-growth timber of various age classes to make possible an early start on continuous cutting operations.

These three new Forests will at present all be under the management of one Supervisor, who will have his headquarters at Munising. Ranger stations will be at Munising, Raco, and Kenton.

THAT'S ONE WAY OF DOING IT

By F. L. Kirby, Datil

Some twenty years ago, when roads were merely "ways" through the hills and valleys and when all travel was by teams and wagons or on horseback, a couple of young fellows left Magdalena each with a load of supplies for their ranches on lower Beaver Creek. The trip then required just about as many days as it does now hours. The second day out rainy weather set in and continued until the roads were sloppy and soft and in some places very boggy. Two or three times they got stuck but were able to pull out by hitching both teams to one wagon. But of course in the meantime this was wearing on their patience. Finally they mired down to the axles; and, even after removing most of the load, they could not pull out. In the midst of desperation, one of them finally hatched a bright idea. They had about 100 feet of new one-inch rope that had been bought for a well rope. About 60 feet away was a big pine tree. They tied the rope to the wagon tongue and to tree about 40 feet above the ground; then they cut the tree down so it would fall away from the wagon. A few feet of slack was left so the tree would be partly over by the time the rope tightened. This yanked the wagon out of the bog hole, but the tongue broke against the stump. So all that was necessary was to cut and hew a new wagon tongue and proceed.

HOW TO START A CLOUDBURST

"When, in 1902, President Roosevelt established a "national forest" in Nebraska, everybody laughed. At that time nothing but bunch grass and cactus grew in the sand hills and ranchers used to estimate that twenty acres would feed one cow 'critter'.....

"Now the state is reaping the reward of the trees planted by settlers under the old "timber claims" and of the many millions planted in the sand hills by the government, as well as those planted under the 'Plant Trees' campaign started by the late J. Sterling Morton. The annual rainfall had increased to 15 inches in 1885. Forty years of tree planting has increased this to more than 30 inches and state-wide droughts in Nebraska are things of the past. And last summer, when surrounding states were burning up for want of rain Nebraska was having enough rain to produce tremendous crops of corn, wheat, sugar beets, alfalfa, potatoes and other farming crops." - From an editorial in the Meriden (Conn.) Record.

GIVE THIS LITTLE REGION A HAND

WANTED - in Milwaukee - Region 9, Report of the Forester: 1901, 1903, 1905, 1907, 1912, 1913, 1914, 1915. If there are any Reports previous to 1900, our library will be glad to receive them, also. M. H.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. 15, NO. 11. Washington, D. C. March 16, 1931

THE SERVICE "FORRESTER"

Dear Editor:

Your letter in the Bulletin, addressed to your friend W. I., has touched my tender heart again and I am forced to this reply. That you should want to change the name of that fair sheet, your talents grace, to that of Ranger - well, I claim your heart is in itsproper place.

The title, Ranger, you select - to us who range the forest land - has always seemed to be correct and most descriptive of our band. No other could quite take its place tho' Webster's list was sacked and bled; tradition and romance retrace the title to our honored dead.

A short time back someone did state that forresters we all should be; that ranger was inadequate for those who farm and guard the tree. And I'll say frankly, I was blue, I didn't like the plan at all; but thanks to those kind friends like you, they did not heed the tempter's call.

But now a plan I would unfold which, I believe, would do some good, and satisfy those who'd make bold to change our title, if they could. The name of Bulletin I'd change to that of Forrester because, that title has a broader range and is consistent with all laws.

Its technic places it beyond the name which marks one class of men; its subject matter knows no bond which ties it to the ranger's pen; its contributions are obtained more often from the class who are real forresters, tho' office-chained, than we who range the hills, afar.

So there's my plan, just look it o'er - you know each job should be well-planned - get all the facts arranged, therefore, ere this new title you demand. Perhaps the present name is right - you should not change till more are heard - for bull like this, if brought to light, proves Bulletin, the proper word.

LoCoed Silas --- Holy Cross

Cooperative Statement of Our Timber Sale Business

F. Y. 1930

By H. Hopkins, Washington

A brief summary of the National Forest timber sale business during the fiscal year 1930, exclusive of timber settlement, timber trespass ,and turpentine sales, follows.

Region	Total Timber Sale Receipts F. Y. 1930	Per cent of Grand Total	Percent Increase or Decrease in Relation to Receipts of F. Y. 1929
5	$1,187,190.81	27.4	+ 19.3
6	1,114,226.16	25.7	- 28.3
7	506,187.53	11.7	+ 47.3
1	485,243.04	11.2	+ 4.5
2	465,811.73	10.7	+ 1.3
3	278,281.92	6.4	+ 0.9
4	155,452.59	3.6	+ 15.9
8	92,793.82	2.1	+ 30.8
9	52,355.47	1.2	--
Grand Total	$4,337,543.07	100.0	+ 6.6

There were thirteen National Forests which had timber sales receipts in excess of $100,000 during the fiscal year 1930. These 13 Forests, forming less than 9 per cent of the National Forests in number, furnished over 56 per cent of the gross timber sale receipts from all the National Forests during this period.

(More data regarding timber sale business in 1930 will be given in subsequent issues of the Bulletin. - Ed.)

FIRES IN THE SOUTH

By E. L. Demmon, Southern For. Exp. Sta.

In the spring of 1927, fires in southern Georgia which followed a two months' dry period were very destructive to both old and young timber. In ponds that had entirely dried out, practically every slash pine and cypress tree was killed. On the higher ground nearby, longleaf pine also suffered severe damage, particularly those trees which had been turpentined. On long-leaf areas that had not burned for two years previously, fifty-six per cent of the turpentined trees were killed, whereas but thirty-two per cent of the unturpentined succumbed. Fires readily ignite old turpentine faces, and the heat thus generated is often sufficient to cause the death of the tree. This holds true for most turpentine areas where fire very commonly gets in after the turpentining operations have been completed.

Even mature trees in the virgin pine forests are injured and often killed as a result of grass fires which commonly burn in such stands every year. Serious injuries often begin with fire scars which become larger with every fire until the trees are so weakened that they fall easy prey to the wind, insects, or diseases.

Studies of fire-scarring in virgin pine forests have been made by the Southern Station in Arkansas, Texas, Louisiana, and Mississippi. The results of accurate tallies on a number of separate areas showed that on the average one out of every four longleaf and one out of every nine shortleaf pine trees in the virgin forests bear visible fire scars. The connection between woods fires and this damage to virgin timber is rarely recognized by lumbermen, although fire scars have a decided effect on the quality and quantity of lumber sawed from such logs. Fire-scarred butt cuts are often bucked off and left in the woods; this is especially true of hardwoods. The fact that the portion of the tree affected by fire scars normally produces the finest grades of clear lumber materially adds to losses when this section of the tree is injured.

WHO REMEMBERS THE FAMOUS FORESTRY CAFE IN 1904

By Joe Santucci, Washington

In the year 1904 the Bureau of Forestry occupied the eighth, seventh, and sixth floors of the Atlantic Building; the balance of the building was occupied by the Indian Service. It happened that two rooms became vacant on the fourth floor. An idea struck me to open a Forestry Cafe. I figured the support would make it a good investment. I took the matter up with Mr. Pinchot, who was Forester, and he greatly approved the idea and said, "Go to it Joe, I'll patronize you, but be sure to reserve me a table that seats six for me and my friends whom I will have as my guests."

Well I started and within a week had the cafe in full operation, and believe me it was some cafe. I had the experience, being a waiter before coming in the Service. I depended mainly on the support of the fifty or more Student Assistants who practically occupied the entire eighth floor under the supervision of John Foley and Frank Reed. These Student Assistants received the enormous salary of $25 per month; some salary for college graduates. I was receiving $30 per month as messenger, married and had two children.

Here are some of the boys that I can remember who were Student Assistants at that time.

Thomas Sherrard
Reed
Porterfield
A.O. Waha
Tower

Dan Kinney
Besley
McDonald
Mell
Tompkins
Peters

A. C. Ringland
Burdick
Hodson
Tunis
Teasdale
Fitzwater

Well I was beginning to see where I was going to make a success out of this famous enterprise, for the boys sure did support me, including Mr. Pinchot, Overton W. Price, and George Sudworth. The table reserved for Mr. Pinchot was at different times occupied by Secretary Garfield of the Interior Department, Senators and Congressmen, who were guests at lunch of Mr. Pinchot. I was complimented by Mr. Pinchot on the luncheons and service extended to him and his guests, with Martha Sneeden the first woman helper in the service assisting while I served the lucnh.

Just when things were going pretty with me, I received a shock that put me out of business. The Student Assistants, in charge of Frank Reed and John Foley, were sent to the Kirby Lumber Company in Texas. That practically took away all the employees of the Bureau of Forestry and my support. I had to close and store the furniture and fixtures.

That ended the once famous and popular cafe operated by Joe Santucci, and the sign over the door that read "As we journey through life let us live by the way" was taken down.

AN UNUSUAL DIFFERENCE BETWEEN MILL SCALE AND LOG RULES

By A. R. Spillers, Southern For. Exp. Sta.

The Economic Study which is being carried on by the Southern Forest Experiment Station to determine the financial possibilities of growing pine in the private holdings of the South, finds an unusually high over-run obtained by small portable sawmills in Alcorn County, Mississippi. In this county the cutting of very small shortleaf pine trees encourages only the simplest product manufactured. Accordingly the mills have drifted into the manufacture of short dimension - in this case an undersized 2 x 4 which is actually cut 1 7/8 x 3 7/8 so as to season and surface to 1 5/8 x 3 5/8. Ninty per cent of the cut is in this material and 10 per cent is 1 x 4-inch strips. Seventy-five per cent is 9 feet long. Only three square edges are required, so that the slabbing is exceedingly light in the small (6" to 10") cylindrical logs. Figuring the stock as full sized 2 x 4 and disregarding the one waney corner in 40 per cent of the stock and taking out an occasional 1 x 4 strip with some wane allowed, results in the heavy overrun above International and Scribner Rules shown in the following table.

During the study in Alcorn County two mill men were found who had made scale sticks based on mill tally for the purpose of buying logs on the mill tally basis. These figures appeared high, yet they were paying for logs on this scale. A brief test of 32 logs, covering diameters of logs 5 to 9 inches inside bark at the small end and 9 feet long, was then arranged at a random mill of average efficiency with the following results fully substantiating the local scale sticks:

Comparison of Mill Scale for 9-Foot Logs With International 1/4" Kerf Rule in the Production of Short Dimension Stock Mostly 2 + 4 s Inch Boards from Second Growth Shortleaf Pine

(For Alcorn County, Mississippi Portable Mills)

Log D.I.B.	Log Contents			Local Mill Overrun above International Rule
	Mill Test*	2 Local sticks	International ¼" Kerf Rule	
Inches	Bd. ft.	Bd. ft.	Bd. ft.	Per cent
5	11	9	5	80
6	** 15	12	10	20
7	18	18	12	50
8	25	24	18	33
9	29	30	25	20
Average				40

* Based on 32 logs tallied.

** Logs averaged almost 6.5 inches d.i.b.

The unweighted average overrun is 40 per cent. The actual total mill tally of the 32 logs was 553 board feet against the log scale (International Rule) of 392 board feet, or an overrun of 41 per cent. This holds only for logs under 10 inches which are typical of the county cut. Mill tally shows an overrun over the Scribner Decimal "C" Rule of about 80 per cent and over the Doyle Rule of 270 per cent.

CORONADO TO HAVE TWO NATURAL AREAS

The Forester has approved the establishment of two Natural Areas on the Coronado National Forest in Arizona - the Chiminea Canyon, of about 160 acres, and the Pole Bridge Canyon, of about 320 acres. The establishment of these areas is designed to make certain the preservation of the natural vegetation found in these localities. In addition to a large number of splendid specimens of giant cactus, the Chiminea Canyon area contains numerous other cacti and woody shrubs. The latter is distinctive of the desert type of cover common to southern Arizona.

The Pole Bridge Canyon area includes certain type specimens of forest trees that have a very restricted range. Thus, in this area are to be found good individual specimens and groups of Apache pine, Arizona pine, and Chihuahua pine, as well as other trees typical of southern Arizona, such as the live oak, walnut, sycamore, and madrone. One of the important reasons why the Pole Bridge Canyon area is of particular significance is that these pines, particularly the Apache pine, can not maintain themselves naturally against the adverse factors of plant competition and man's activities. As this area is at an elevation of about 7,000 feet, it contains specimens of Douglas fir.

These areas have been examined by the Supervisor, Director of the Southwestern Forest Experiment Station, members of the Biological Survey, and various professors in the College of Agriculture in the University of Arizona; and one of them has been examined by the President of the University, Dr. H. L. Shantz.

SATURDAY HALF HOLIDAY BILL PASSES

The following act, providing for Saturday half holidays, was signed by President Hoover on March 3:

"Be it enacted, *** That on and after the effective date of this act four hours, exclusive of time for luncheon, shall constitute a day's work on Saturdays throughout the year with pay or earnings for the day the same as on other days when full time is worked, for all civil employees of the Federal Government and the District of Columbia, exclusive of employees of the Postal Service, employees of the Panama Canal on the Isthmus, and employees of the Interior Department in the field, whether on the hourly, per diem, per annum, piecework, or other basis: Provided, That in all cases where for special public reasons, to be determined by the head of the department or establishment having supervision or control of such employees, the services of such employees can not be spared, such employees shall be entitled to an equal shortening of the workday on some other day: Provided further, That the provisions of this act shall not deprive employees of any leave or holidays with pay to which they may now be entitled under existing laws."

A regulation by the Secretary is in course of preparation, and correspondence with the Regions has been initiated looking to the development of policies, practices, and financial provisions made necessary by the passage of this act.

The national officers of the Federation of Federal Employees are naturally jubilant over the passage of this piece of legislation during a crawded session such as the one just closed.

MORE GAME BIRDS IN AMERICA

By C. E. Rachford, Washington

Last summer newspapers throughout the country contained an interesting item on an endownment of ten million dollars for the purpose of increasing the nation's game resource. Now comes a neat, little pamphlet entitled "More Game Birds in America, Inc., - a Foundation."

Accompanying the pamphlet is an impressive list of the founders to date, forty-nine in number. In its "Statement of Policy" the Foundation sets forth one objective; i. e., to increase the number of game birds in America.

It proposes to:

1. Consider the past with its entirely restrictive legislation and concurrently diminishing game.
2. Examine conclusions drawn by the prophecies made by experts from Darwin down to the present day.
3. Study game conservation methods and results obtained in other countries.

AND THEN

4. Combine all concrete results in a comprehensive plan for the future, one that is wise, fair and sane, and bend every effort to carrying it through.
5. Enlist nation-wide cooperation of all who subscribe to our one objective.
6. Through publicity, educate the public to understand that good to all will come through the attainment of our one objective.
7. Endeavor to secure the necessary legislation, Federal and State, with full cooperation of officials.
8. Make adequate provision at the start for sufficient financing to insure capable management worthy of our objective.

Each of the above items is discussed in the following pages of the pamphlet in an interesting and instructive manner.

This announcement brings one more strong agency into the field of game betterment, and while it suggests the European system as being applicable to this country it implies agreement with the fundamental premise of the National Game Policy as recently adopted by the American Game Conference that the owner of land must be responsible for game production. It goes farther, however, than the game policy in the advocacy of sale of game.

It is believed the pamphlet can be secured by addressing "More Game Birds in America, 580 Fifth Avenue, New York City.

YE EDITOR DISCOVERS

The second deficiency bill was signed by the President on March 4. In addition to our fire fighting deficiency for the season 1930 it carries an appropriation of $300,000 for a Forest Service building at Ogden, Utah, and $800,000 for structures on a 15 acre tract at Alameda, California, which will be used by the Coast Guard, Bureau of Public Roads, and the Forest Service. The Forest Service building on Government Island, as this tract is called, will provide a central warehouse for fire equipment and other purposes in California and will house the Supply Depot, which will be moved from Ogden. The second deficiency bill also carried $150,000 for blister rust control work in Region 1 and the increases on account of the Brookhart act.

- - - - - - - - -

On March 3 President Hoover signed the bill extending to Porto Rico the provisions of Sections 1, 2, 6, and 7 of the Clarke-McNary Act, which hitherto have not been applicable to Porto Rico. This island has worked zealously to conserve and develop its forest resources, but its financial condition is such that Federal aid is needed perhaps more acutely than in any of the States or other Insular Possessions of the United States. The program submitted by the Forest Service in support of the bill contemplates cooperation in fire prevention to the extent of an annual Federal contribution of approximately $3,000 and the ultimate extension of the Luquillo National Forest by the purchase of not to exceed 50,000 acres of land at an estimated cost of $400,000.

- - - - - - - -

For some years Keplinger has maintained relations with the American Management Association, which is one of the two or three most important organizations in the United States concerned with the development of the science and art of management. The Washington office and a number of the Regional offices have library memberships with this association and receive its extremely valuable publications. The association holds conferences or study sessions from time to time. Those dealing with personnel management are probably of most interest to us. During the winter Keplinger attended one of these sessions and has promised a report of the meeting for an early issue of the Bulletin.

- - - - - - - -

Recently in the solution of a correlation problem, the Allegheny Forest Experiment Station discovered that it was necessary to carry their work to the 32d decimal place in order to arrive at a figure which was really significant in the final answer. Such a very large number of decimals beyond the capacity of most computing machinery made necessary some modifications which have resulted in favoring an optional method where work needs only to go to a small number of places in order to obtain the significant figures. This merely goes to show to what lengths and what number of decimal places Research will really go in order to arrive at true values.

- - - - - - - -

L. F. Kellogg, of the Central States Forest Experiment Station, is in Washington on a six weeks' detail to the Branch of Research. Kellogg has brought with him a large amount of data on black walnut plantations throughout the Central States region. While in Washington he will endeavor to prepare yield tables for planted stands of walnuts, as well as volume tables which will apply to this unusual form of stand.

MOUNT HOOD HOTEL PRESENTS MANY PROBLEMS

By L. F. Kneipp, Washington

The proposed construction of a cableway to the summit of Mount Hood involves as a part of the program the construction of a modern hotel on the one available site now occupied by the Cloud Cap Inn. In indicating his willingness to approve this project, the Secretary of Agriculture stipulated that the construction of both the cableway and the hotel should conform to the highest types, so as to minimize their detrimental effect upon the scenic and esthetic values of the Mount Hood area. Several designs for the hotel had been submitted by the promoters of the project, all of which seemed to present some detrimental features. In an effort to arrive at the best obtainable results, the principal designs have been submitted to Mr. Frederick Law Olmsted, an outstanding authority on landscape architecture and a member of the special committee which examined and reported upon the Mount Hood area in 1929. Mr. Olmsted has given liberally of his time to a study of the proposal and in a long memorandum has outlined certain basic principles not only applicable to this project but fundamentally valuable in connection with the future consideration of any similar projects in other areas. He has, however, suggested that the proposed designs and his comments thereon be submitted to the National Commission of Fine Arts for a final expression of views. This has now been done, and the conclusions of the commission are being awaited with considerable interest. While this means of determining upon the final design necessarily involves some delay, it is a guarantee that final decision will be in accord with the best prevailing principles of landscape management and probably will result in the establishment of certain cardinal principles of planning and design for comparable situations, which will stimulate higher types of development within the National Forests.

PAGE MR. FREUD

By H. D. Petheram, Pike

In August 1929, I went to Region One as part of the mighty phalanx detailed on fire duty. A part of the trip, Pocatello to Great Falls, was made via air mail. To say that I enjoyed that part of the trip would be putting it mild. The reaction came a few nights later when I fell asleep in the bath tub. No joking, we had one. Our fire camp was established at a summer resort on the Lewis and Clark Forest.

As I slept, I dreamed. And in that dream I was piloting a twin motored monoplane. In the center line a one pound gun was mounted. It was much lighter than the ordinary field piece used by the army. The speed of the plane and gravity made a material reduction in the driving force needed for the projectile and that reduced the size of the piece. It was also quite apparent that some metal other than iron or steel made up the main part of the gun. The shells resembled the one pounders of the army but contained a gas which smothered fire by removing the oxygen from the air.

In this dream, I was following an electric storm over a forested area. Numerous fires were started by lightning. Over each fire, at an altitude of about three quarters of a mile, the plane was brought into a nose dive and so aimed at the fire. The one pounder was then discharged and a whole fire crew dispatched post haste to that little column of smoke far below. I then brought the plane out of the nose dive and circled the fire to watch results. In each case of the four or five fires which were tackled in this dream, one shell did the work.

I woke from my dream still up in the air, and wondered what was the meaning.

Recently, a sequel to this dream, like the second installment of a continued story, came to me. I was in the same plane with the same equipment. But the scene was far different. Instead of a single plane over a forested area, there were hundreds, somewhere out over the Pacific Ocean. Some foreign nation was invading the United States from the air. The U. S. Forest Air Scouts were putting a long period of target practice into effect with extremely satisfactory results.

AUTO REPLACING HORSE TRAVEL TO FIRES

Ranger Nelson has made a fire study involving all reported fires occurring on the Heber District 1921-1930, inclusive, reports the Sitgreaves Elkhorn. The data have not been completely analyzed but as a starter, 4 fires were reported in 1921 as against a high point of 54 in 1928, dropping to 17 in 1930, which was an unusually favorable year. Seventy-five per cent of the fires were attacked by horse travel and 25 per cent by foot travel in 1921. In 1930, eighty-nine per cent were attacked by car, and 11 per cent by foot travel. The high peak of attack by horse travel was passed in 1927, which is the first year a majority of fires were attacked by cars. In 1927, seventy per cent were attacked by car, and 30 per cent by horse. - Region 3

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. XV, No. 12 Washington, D. C. March 23, 1931

REPORT ON THE PUBLIC DOMAIN SUBMITTED

The report of the Committee on the Conservation and Administration of the Public Domain, which was submitted to the President under date of January 16, has been released for publication under date of March 9 and is now before the public. The substance of the committee's findings and recommendations is contained in the prefatory statement, the discussion of general policies, and the special recommendations, which are as follows:

To the President of the United States:

The committee appointed by you, in accordance with the act of Congress approved April 10, 1930, to make a study of and report on the conservation and administration of the public domain, respectfully submits the following report:

You have submitted to the committee problems for consideration which we summarize under five major topics:

1. The future disposition of the remaining vacant, unreserved, unappropriated public lands and the adoption of a definite program of conservation of grazing resources either through ownership or control by the States or by Federal administration.

2. The use and conservation of water resources including reclamation and flood control.

3. The conservation of subsurface mineral resources with respect particularly to the position which the States should occupy in any program.

4. The conservation of timber resources with special consideration of national forest areas, their usefulness within present limits, and the matter of additions to or eliminations from those limits.

5. Changes in administration which might produce greater efficiency in the conservation and use of the natural resources of the Nation.

Consideration of the questions submitted has led the committee to the following general conclusions and specific recommendations.

General Policies

It is the conclusion of the committee:

1. That all portions of the unreserved and unappropriated public domain should be placed under responsible administration or regulation for the conservation and beneficial use of its resources.

2. That additional areas important for national defense, reclamation purposes, reservoir sites, national forests, national parks, national monuments, and migratory-bird refuges should be reserved by the Federal Government for these purposes.

3. That the remaining areas, which are valuable chiefly for the production of forage and can be effectively conserved and administered by the States containing them, should be granted to the States which will accept them.

4. That in States not accepting such a grant of the public domain responsible administration or regulation should be provided.

5. We recognize that the Nation is committed to a policy of conservation of certain mineral resources. We believe the States are conscious of the importance of such conservation, but that there is a diversity of opinion regarding any program which has for its purpose the wise use of those resources. Such a program must of necessity be based upon such uniformity of Federal and State legislation and administration as will safeguard the accepted principles of conservation and the reclamation fund. When such a program is developed and accepted by any State or States concerned, those resources should be transferred to the State. This is not intended to modify or be in conflict with the accepted policy of the Federal Government relating to the reservation stated in conclusion No. 2 above.

Special Recommendations

1. That Congress pass an act granting to the respective public-land States all the unreserved, unappropriated public domain within their respective boundaries, conditioned, however, that in order to make the grant effective, the States desirous of accepting it shall so signify by act of legislation. A copy of the accepting act signed by the governor and attested by the great seal of the accepting State, when transmitted to the President of the United States, shall operate as an application for the clear listing of the lands granted, and the proceedings thereon shall follow under the direction of the Secretary of the Interior, as in the case of selections heretofore made by public-land States under State land grants.

2. That for States not accepting the grant Congress shall include in the act a provision that upon the application of the State land commission, or State land commissioner, as the case may be, authorized thereto by the State legislature, the President should by Executive order designate the unreserved, unappropriated public domain in such State as a national range.

Existing laws and appropriations pertaining to the national forests should be extended to national ranges in so far as applicable, including grazing research and range improvements, and disposition of receipts, homestead provisions, and the prospecting for and utilization of minerals.

National ranges should include public lands withdrawn for mineral or other purposes when the use of the land for grazing is not inconsistent with the purpose of the withdrawal.

3. In the same act of Congress it should be provided that in the absence of legislation by any State within 10 years thereafter dealing with the control and administration of the unreserved, unappropriated public domain, the President, by Executive order, may establish, when authorized by Congress, a national range in such State, comprised of all such public domain, including lands withdrawn for mineral or other purposes whose use for grazing is not inconsistent with the purpose of the withdrawal.

4. Areas of unreserved and unappropriated public domain granted to the States shall be clear listed by the Department of the Interior in accordance with established procedure as to mineral or nonmineral character. In the case of lands classified as nonmineral in character, those passed to the States should be in fee simple, and pending the transfer of lands to the States the Federal Government should recognize in so far as possible any method

inaugurated by the States to regulate the movement of livestock on such lands to prevent overgrazing that is not discriminatory between the States.

In the case of lands classified as mineral in character, title to the State should be in fee simple, except for the reservation in the United States of specified mineral or minerals found by the Interior Department to be present in the land at the time of clear listing, and with reservation in the United States, its permittees, lessees, or grantees, of the right to enter upon the lands, to prospect for, mine, and remove such minerals.

5. There should be temporarily excepted from the grant the areas shown on map No. 1, submitted to this committee by the Forest Service, entitled "Areas proposed by Forest Service as additions to existing national forests or for establishment as new national forests." In order to determine what, if any, areas should be taken from or added to the national forests, a board should be created for each State composed of five members, one designated by the President of the United States, one by the Secretary of the Interior, one by the Secretary of Agriculture, and two by the State. The power and duty of such boards shall be: (1) To decide what, if any, lands within such proposed areas shall be added to the national forests; (2) to decide what, if any, areas within existing national forests shall be restored to the public domain; (3) additions to national forests should be limited to areas chiefly valuable for forest purposes, except upon request of the State involved; (4) the board shall endeavor to correct and round out the boundaries of national forests by the consolidation of areas wherever practicable; (5) the board shall report its findings from time to time to the Secretary of the Interior and complete its findings within one year from appointment of the board.

The committee recommends the use of map No. 1 merely as a basis for consideration of the board, not as an expression of opinion or suggestion that those areas be added to the national forests.

The committee believes that this method of procedure will expedite clear listing of the remaining lands.

Whatever areas are not included within a national forest as a result of the decision of the board shall then pass to any accepting State to be clear listed in the same manner as the general grant.

The board herein created shall be organized upon the passage of the act and any State may elect to defer acceptance of the grant in paragraph 1 until the determination of the board has been made.

6. The board should also be authorized to select additional reservations important for national defense, for reclamation purposes and reservoir sites, for national parks and monuments, and for migratory-bird refuges, and to recommend that they be set aside for the purposes indicated and be excluded from lands granted to any accepting State, and such recommendation when received by the Secretary of the Interior shall have the effect of excluding such areas from the grant; provided, however, that the recommendations shall be filed with the Secretary of the Interior prior to the clear listing to the State of any of the land which might be so reserved.

If a majority of the board, or in the case of national defense, and/or for reservoir sites on interstate streams, two members thereof request that a definite area for the purposes stated in the preceding paragraph be excluded from the clear listing of any tract for further study to be given the subject, then the Secretary of the Interior shall exclude such definite areas from the clear-listed lands.

This board shall also have the power and it shall be its duty to make recommendations to the Secretary of the Interior for the elimination of lands from existing reservations, withdrawals, and classifications when such action is deemed proper by the board.

7. Areas restored to the unreserved and unappropriated public domain through the cancellation of any rights or claims or release of withdrawals should be subject to adjudi-

cation and clear listing or reservation, as herein provided.

8. The Secretary of the department having jurisdiction over any of the lands classified and disposed of as herein provided and remaining in public ownership should be authorized to exchange any of such lands with States or private owners for other lands of equal value with a view to consolidating ownership for more effective utilization and administration. In the making of such exchanges long-standing priority of use of grazing areas should be given due consideration and no exchanges completed until after full hearing has been accorded. Similar authority should be extended by an enabling act to the States as to any public lands granted thereby, and also as to any lands granted to the State by previous enabling or other acts.

9. In order to bring about the consolidation of existing State holdings within the States not accepting the general grant, so that administration and control may be more efficiently exercised, the State should be authorized, in the discretion of the Secretary of the department having jurisdiction thereover, to select any isolated area not in excess of four sections of the unreserved, unappropriated public domain, such as consolidated with near-by areas of State-owned lands would effect the purpose mentioned; and upon clear listing of such selections, title should then pass to the State as in the case of other State land grants.

10. The Secretary of the Interior should be authorized to clear list areas previously withdrawn for the protection of stock-watering places and areas withdrawn for stock driveways upon a showing by the State that they are no longer required.

11. As to all grants provided for in the act, the land should pass to the States impressed with a trust for administration and rehabilitation of the public domain and for public institutions and with such restrictions as Congress might deem appropriate.

The following general restrictions are deemed desirable:

(a) The lands passing to the several States under the provisions of this proposal shall be subject to lease, sale, or other disposition as the State legislature may determine; provided, however, that all sales of such lands shall be made only at public auction after previous advertising and with reservation of subsurface minerals.

(b) None of such lands, nor any estate or interest therein, shall ever be sold or leased except in pursuance of general laws providing for such disposition.

(c) All proceeds arising from the sale or other permanent disposition of the lands and every part thereof shall be placed in a permanent fund to be safely invested and to be guaranteed by the State against diversion or loss.

12. The present conservative policy of reclamation development should be continued. Under it, construction expenditures each year are restricted to the payments from settlers and the income from other sources provided for in the law. If payments are not made, works will not be built. This makes of reclamation a sound business policy and is a strong influence toward maintaining the integrity of the contracts.

Where projects require a larger investment than can be met from the reclamation fund, they should be dealt with by Congress in special acts similar in character to the Boulder Canyon project act.

We recommend that, in the undertaking of any project, there should be no interference with the laws of the State relating to the appropriation, control, or distribution of the water or with vested rights secured thereunder.

Past experience, coupled with the urgent need of additional funds for accelerating and continuing construction work on irrigation projects, points conclusively to the desirability of adopting a definite policy relative to hydroelectric development, under which the power receipts should be used; first, to repay the cost of the power plant and appurtenant works; second, the cost of the reservoir and dam which regulates the delivery of water to the plant; and after that, all net revenues should be credited to the reclamation revolving fund.

The policy should be continued of having a central organization to design and build works, but to transfer these works to the control and management of the water users as soon as the projects are settled and developed.

13. We approve and adopt from the Report of Committee of the Irrigation Division of the American Society of Civil Engineers made October 4, 1928, the following:

"The conservation of the water in the rivers and lakes of the country should be under public control and in order to lay a proper foundation for the making of comprehensive plans the Federal and State Governments should gather data, compile statistics, and conduct studies necessary to determine the feasibility of projects.

"The regulation of the flow of streams for the prevention of floods and for the best possible utilization of the waters should be undertaken by the States, or jointly by the United States and the States under such suitable forms of cooperation as may be appropriate under the constitutional authority now delegated to each. They should prepare and adopt comprehensive plans for such regulation and should bear an equitable portion of the cost of water-storage and flood-control work when the economic aspects after full investigations are found to be favorable, and the remainder of the cost should be allocated to flood-control, irrigation, power-development, municipal water-supply, and other purposes.

"Where protection against flood waters results from the regulation of stream flow by means of reservoirs or otherwise, the proportion of the cost of the flood-control work not assumed by the Federal or State Government should be assessed against the lands and other properties which receive benefit therefrom."

14. Whatever be the method adopted for the use and disposition of the public domain, any final administrative act must be based upon a survey of the areas involved. It is therefore recommended that the Congress be asked to provide appropriations sufficient to enable the General Land Office to proceed immediately with the survey of the remaining unsurveyed areas.

15. In the administration of the public domain as a national range it is recommended that consideration be given to those methods which will perpetuate the best interests of the livestock industry, including long-time permits for grazing, and developing watering holes to permit the complete use of the range. The program should include consideration of a year-round permit system allocated so as to make the best use of the entire grazing areas of the State.

Careful consideration should be given to those areas vital for both grazing and watershed protection to the end that both interests receive constructive administration.

16. That the present ratio of participation by the Federal Government in the construction of Federal-aid highways be continued for a period of 10 years.

17. The location and protection of stock driveways should be given immediate consideration. Pending the determination of the extent to which they should be transferred to the States accepting the grant, cooperative action between the Federal Government, the States, and the stock-raisers' associations as to use, location, and policing should be entered into where possible. Interstate driveways should be retained in the Federal Government and held subject to use determined by interstate agreements.

18. We adhere to the principle that in all matters clearly involving the interest of two or more States, but not that of the other States of the Union, all questions arising therefrom should be settled by agreement and compact so far as possible and not by Federal intervention, save an appeal to the courts where necessary. This principle has proved very effective recently and should be more frequently resorted to in the future.

19. It is the conclusion of the committee that as to agricultural and grazing lands,

private ownership, except as to such areas as may be advisable or necessary for public use, should be the objective in the final use and disposition of the public domain.

20. In order to provide for a more effective administration of the public domain and the various reservations and areas now under the control of the Federal Government and to promote the conservation of natural resources, it is recommended that the Congress be asked to authorize the President to consolidate and coordinate the executive and administrative bureaus, agencies, and offices created for or concerned with the administration of the laws relating to the use and disposition of the public domain, the administration of the national reservations, and the conservation of natural resources.

FINALLY

By A. G. Clayton, R. 2

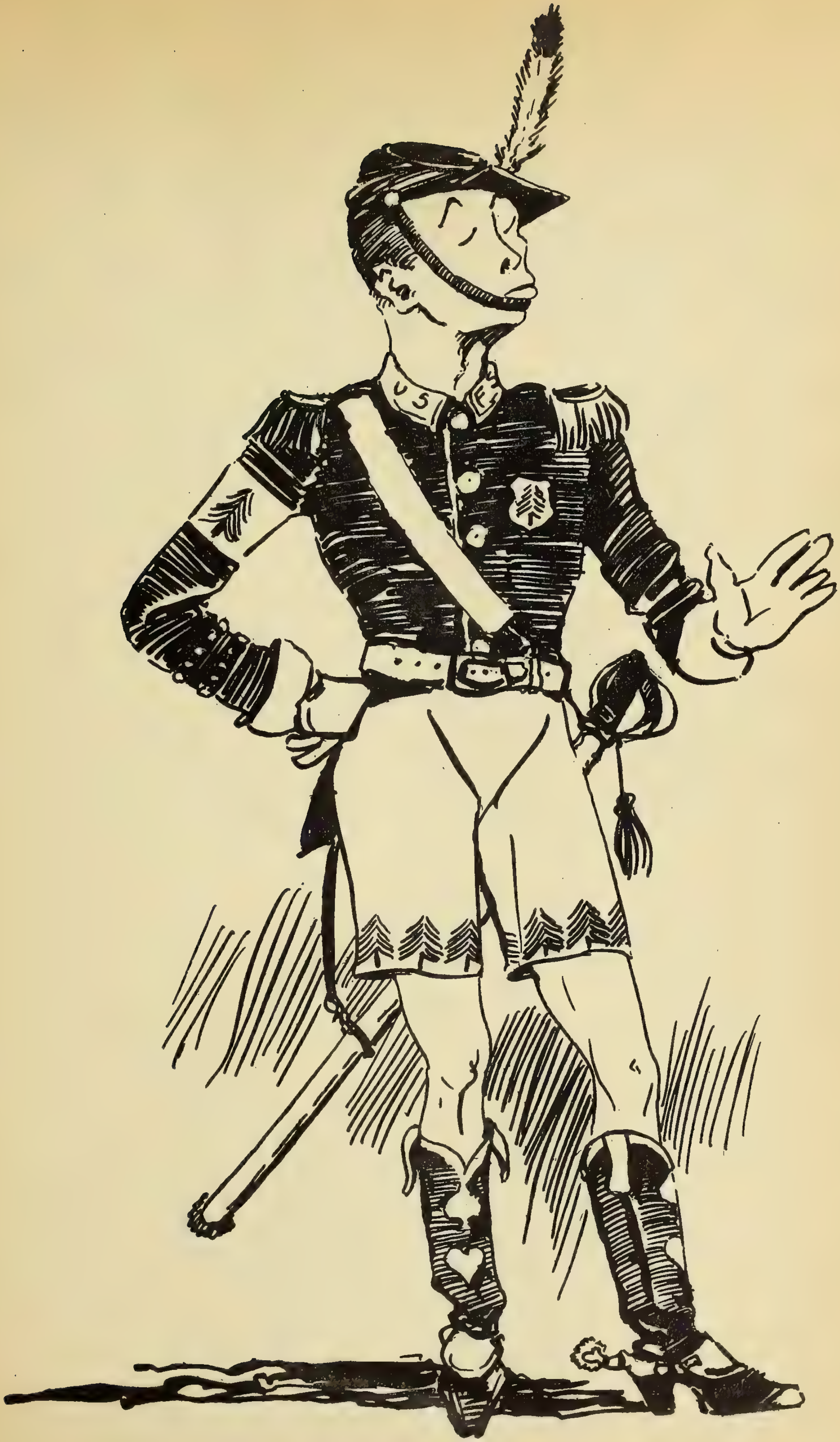
Well, boys, it took a long time to figure it out, what with all the arguments that have been going on for the last couple of years, but it was worth it. We have hit upon something that is striking and distinctive, both at once; something which we are sure will always identify us as men having a connection with a first-class outfit. We put it all over the telegraph messengers and the bell hops this time, and we want to say that it will be a long time before any of them put anything over on us again. Are we right?

This thing wasn't designed in a day. As we said before, it took time. And here is the way we went about it. First we got everyone to advance an idea as to what he thought was the correct thing for the man of the hour to wear, and it wasn't any time at all until we could plainly see that everyone had a different idea about what he thought was the right thing. We traced most of it down and found that it most generally centered around some woman telling some fellow that he looked so well in a cap, for instance, or he looked so youthful in plus fours. Maybe she liked him in a green shirt and maybe she liked a red scarf around his neck. It doesn't make much difference now -- that's how most of it came about. Take in our own case for instance. She once told us that we looked like a dressed up carrot when we put on a white collar and we've been agin them ever since. Anyway, that is how we got a lot of this stuff and how we came to the decision we have.

As was said in the beginning, we wanted something distinctive. We even felt that we wanted more than that. Suggestive! That's what we wanted and By Harry we've got it! Sex appeal! Something with a capital IT! Yet nevertheless and not withstanding, we felt it only fair to give as much consideration to each man's taste as we could, so if you will follow through you will understand all.

For instance, one fellow doesn't like our hats, says they blow off or get in the way when he kisses the Missus good-bye. Well, we overcame that right off the bat. So we selected the old Army cap. It always did have a whole lot of appeal to it and besides it's cheap. We found where they could be bought for nineteen cents each.

We are sorry we can't show a color cut of the coat. It's supposed to be a deep scarlet. This serves the dual purpose of giving a touch of color amidst the somber pines and at the same time will stop a fellow from being shot for an elk or something. The cutaway coat allows a fellow plenty of leg room in either a standing or sitting position, especially sitting, and at the same time it is rakish enough to be worn at the most exclusive Dude Ranch without making a fellow feel conspicuous, while the dudes whispered that he lacked culture or something. The garnishments on the shoulders are just extras that help make it a real uniform while the Sam Browne belt is merely a sop to those boys who had too much Army. Of course the sword is a little superfluous but they don't cost much and could be used for limbing off


U S
E

overhanging branches as the boy friend goes his weary rounds.

We had more trouble over the pants than any of the rest of the outfit. Seems like there were all sorts of ideas about them -- some wanted overalls, some plus fours, some breeches, and some just plain pants. So we compromised as usual and selected those as shown in the cut. While it's admitted they are not so very original, nevertheless they are cool and light and allow a fellow plenty of leg room for whatever it is he has to do. Besides, we figure it won't take a fellow's knees long to get toughened in. Look at the Scotch -- look at the way they dress. They're no tougher than we are, we thought. And we almost forgot to add that the pants won't be the old fashioned (customary) white -- they will be green. This stands for forest. See the idea ?

You've probably already guessed about the boots and spurs. That's the Westerners coming in and making themselves heard. If it wasn't for this foot wear the boys in the West would feel like they was'nt in it at all, the hat and everything going the way it did. Whoever heard tell of a ranger without a hat and a pair of riding boots and spurs, they'd say. We simply couldn't do it any other way.

We forgot to add that the feather in the cap wasn't our idea at all. We got that from Europe. Seems like they wear these things over there in some countries, so we decided that Forestry, like Science and Art, is too big to let it be only regulated nationally, so we extend this as sort of a greeting to the whole world.

And now we come to the last point that we considered, and we feel sure that most of our readers will agree on this. When people see a fellow coming along in this outfit they won't only think fish, hunt, trap, as they do now when they hear the name ranger uttered. No sir! They will instantly be reminded of Paris -- the Riviera - Naples -- or perhaps a romantic evening in Vienna. They will even liken us to the King's Royal Ready Rifles or something equally fascinating.

The cut shows how it would look when it would be necessary to explain a technical point to a sawmill operator who started to get rough.

THE UNIFORMED OFFICER

By John W. Lowell, Bitterroot

In the first place, let me say that this is not an attempt at levity, for in my opinion there has already been enough levity injected into this subject to materially detract our attention from the main issues.

Some water has passed down our forest streams since 1904, when I with about ten other cow-punchers, one steam boat captain, one farmer, and a physician had all the glory of being the force of Uncle Sam to handle the old Battlement National Forest. But this is not a personal history, but is instead an attempt to recall to our minds what has gone before and lead up to our present conditions and needs in personal standards.

In those old days we all wore boots, spurs, chaps, and wide-brimmed hats and the various whatnots and folderols that went to make up the appearance of a cowboy or stockman on parade. In short, we were letting our environment set our example of dress, following the cowman's standard.

Perhaps this was necessary, and to a certain extent good for the Service in those days, but we were losing time in setting up standards that would identify us as a part of an up-to-date, well-knit, and loyal-to-our-ideals organization. Yes, I, too, greatly disliked the uniform idea. I had an inherent dislike for standards of various kinds and degrees, so many of us helped to delay the inevitably growing efficiency of our Service. Those of us who could not see the light have about all dropped by the wayside. In some ways, some of us are still groping in the dark, but thanks be, experience has taught nearly all of us that we need standard uniforms that will in some measure reflect our estimate of ourselves, our ideals of efficiency and our organization as a whole. We have not, and probably never will, come to the place where we can reconcile our varied duties and independence of thought and action with epaulets, gold braid, military tactics, or machine performance, and I hope that time will not come; but I do often think what a fine sight it would be to see two or three dozen Forest officers all coming out of the same building at the same time (probably after a conference on plans, standards and estimates) with every one wearing the present standard cloth and cut, same color shirts, same color and style hats, same color shoes and ties. Say Boy, I have never seen it yet, but hope I may before I, too, drop by the wayside. To my notion, no better cloth or style could be designed to meet our varied needs. Yes, I dislike standards, and yet we, ourselves, make them necessary.

Here on my little job, there is only one out of ten that does not habitually wear practically all of the uniform while on duty, except when on the roughest kind of field work. Other units I know of, some of them higher up, are not so good; maybe some better. My frank opinion is that a definite, standard requirement is necessary and should be enforced. Perhaps we should be furnished uniforms and be compelled to wear them, or be compelled to order through Forest Service channels as commissary and pay for them ourselves, but if we won't come through and meet the reasonable request for the use of uniforms as it now stands, and discard our Kit Carson caps, trappers', loggers' and cowboy riggins, some big guy should make us do it anyway.

YE EDITOR DISCOVERS

Region 1 is working out final steps in reorganization of Forest and Ranger Districts in Montana and Northern Idaho. One Forest has already been dropped as a separate unit, and a report now in preparation is expected to recommend to the Forester the dropping of four additional National Forests as separate units. If the reorganization plan is approved, Supervisors' offices will be discontinued at Miles City, Livingston, Choteau, and Sheridan, all in Montana. Considerable opposition from the business interests in the towns affected is expected; in fact, the opposition started before Region 1 could finish its study of the whole situation. One of the interesting aspects of such reorganization studies is the effect of the change from the old slow horse travel days to the present era of automobiles and relatively good roads. Roughly speaking, the two-day travel time of twenty years ago becomes a two-hour trip.

- - - - - - -

The eleventh annual meeting of the National Conference on State Parks will be held this year on May 27-28 in St. Louis, and will be followed by two optional field trips into the beautiful Ozark region, one of a single day and one of three days. The objective of the one-day trip will be one of Missouri's principal State parks; the longer trip will include several exceptionally fine park areas and much attractive country. If the latter trip involves a very extensive tour of the northern Ozark Plateau, it inevitably will bring those attending the meeting into close contact with some very interesting and complicated forestry situations, since the rather complete utilization of the timber resources of that region has created a number of interesting problems of land economics, of political government, and of community existence.

- - - - - - -

According to R. A. Turner of the Extension Service, there are now 215 boys' and girls' forestry clubs in the white-pine States of the Northeastern and Lake regions. The total membership of these clubs is 4,113.

- - - - - - -

Taking advantage of the favorable seed year, Leo Isaac of the Pacific Northwest Forest Experiment Station collected and prepared a wall mount of the seeds of all the conifers native to the Northwest. The exhibit which consists of a 20 x 24 inch panel in a frame is not only decorative but also educational. The seeds, with wings attached, are mounted under glass and labeled with both the common and the scientific names.

- - - - - - -

Regional Foresters Rutledge and Flory were recent arrivals in Washington. Rutledge will spend about a week or ten days in conferring with the Forester and other members of the Washington office, while Flory will remain for about two months looking after various matters connected with his position as Commissioner for the Department of Agriculture for Alaska and cooperating with the Department of the Interior, particularly regarding the establishment of the reindeer industry in the Nome region.

- - - - - - -

In this issue we print two more articles on the "uniform" question. We wish these uniform admirers and promoters and deriders and defamers would finally make up their minds what kind of a uniform we want, or whether we want one at all, and give the poor overworked editorial staff of the Bulletin a little peace. The Bulletin is your forum and prints "all the news that's fit to print." Its editors used to believe that all controversy must end sometime - but you've got us wonderin'.

RETIREMENT OF SUPERVISOR AT AGE SET FOR RANGERS

An important precedent was recently established in that the Civil Service Commission has authorized the retirement for age of a Supervisor at 60 years. There were no unusual or extenuating circumstances in the case; in fact, the record showed clearly that the officer was in better physical condition than the average man of 60. The case falls under the optional provision of the retirement act which applies only where there has been thirty years of service; also under this provision, retirement must be at the instance of the member.

The premise on which the Forester's recommendation for this action was based was that the forest covers a rugged country, difficult to get over and necessitating a great deal of foot and pack travel by the Supervisor in its effectual administration; and that the work of the Supervisor is both strenuous and hazardous and can only be performed up to the required standards of the Service by a man of vigorous health and strength.

Prior to this case there have been two other exceptions to the usual age limitations of 70 and 68 years authorized by the Commission, one involving a deputy supervisor and the other a lumberman. - H. I. L.

OUR TIMBER SALE BUSINESS F. Y. 1930

By H. Hopkins, Washington

The honor roll for 1930 in timber sales from a purely fiscal standpoint is--

Forest	Region	Total Timber Sale Receipts F. Y. 1930	Relation to Total National Forest Timber Sale Receipts F. Y. 1930
Snoqualmie	6	$ 287,592.86	6.6%
Stanislaus	5	280,875.12	6.5%
Sierra	5	275,848.81	6.4%
Lassen	5	246,180.58	5.7%
Coeur d'Alene	1	243,977.65	5.6%
Ouachita	7	198,360.93	4.6%
Plumas	5	192,624.54	4.4%
Olympic	6	157,404.57	3.6%
Deschutes	6	119,441.97	2.8%
Sitgreaves	3	110,936.55	2.6%
Kaniksu	1	110,572.09	2.5%
Harney	2	109,994.32	2.5%
White Mountains	7	106,522.84	2.4%
Total		$2,440,332.83	56.2%

Honorable mention in this class should be given to the Cascade National Forest in R-6, with total timber sale receipts of $92,477.20. If the value of the timber cut in exchange had been included, this Forest would have also been included in the above honor roll.

The total receipts from timber sales for the fiscal year 1930 broke all previous records in the history of the Forest Service.

MORE ABOUT HOLLY TREES

By C. S. Robinson, Lassen

Reference is made to the article on Holly Trees in the January 5 issue of the Bulletin.

My recollection of the holly trees growing in England and Ireland is that they were not usually as tall as the one cited in Desha County, Arkansas, but that they were of most symmetrical shape and very beautiful in the rich dark green of the foliage and gorgeous red berries.

Holly wood was, and still is, used extensively for whipstocks in England, the wood being very durable and readily adaptable to careful curing and finish. A dead white when green, it turns dull yellow with age. I well remember my Uncle David's collection of whips, gathered during the days when horses were a necessity and driving, or coaching, the vogue. The whipstocks varied in length according to use--coaching (or 4-in-hand) tandem, and dogcart whips, all of hollywood from six to ten feet in length the lash corresponding. The small branches growing on the stem were not always cut off close, enough being left on the thicker end to give the required 'nobby' appearance. The wood was polished and varnished to perfection, and had exquisite finish. The handle was of soft leather, often morocco or calfskin, finished with gold or silver bands.

The 'shillaylagh' of old Ireland was originally of holly--sometimes black-thorn, and walking sticks of holly, "nobby ones," are common in the Midland counties of England today.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 13 Washington, D. C. March 30, 1931

PERSONNEL CONFERENCE OF THE AMERICAN MANAGEMENT ASSOCIATION

By Peter Keplinger, Washington

The American Management Association is an association for the promotion of study and research in all phases of Management. Its membership includes most of the progressive business organizations of the country, other organizations having a similar interest, and individuals. Recently, I attended one of its conferences and since several Regions of the Forest Service are members, possibly men in the field would be interested in my impressions of the meeting.

This meeting, February 2 to 4, was the first held by the newly created Personnel Division of the organization. There were more than three-hundred representatives of member organizations enrolled. The last day was given over to the public relations aspect of personnel management and public-contact training.

The program was divided almost equally between the conventional meeting, with papers and formal discussion, and the informal conference type, without papers or speeches but with directive leadership. The meetings were too large for the informal conference type of meeting, yet I believe we got more out of these than out of the more formal meetings. In such a meeting men are apt to say what they think while in a prepared paper they must consider also what others will think and how it is going to look in print.

As might be expected, considerable time was given to the discussion of business depression, ways in which it had been met, how it had affected personnel work, and what might be expected in the future. One very interesting thing indicating trends is that in the depression of 1921 a great many companies, in order to reduce expense, discontinued their personnel departments; in this depression personnel work has been intensified. Heretofore, when men have been plentiful, little attention has been given to training; now, with more idle men than ever before, training has been intensified, Also the belief seemed quite general that the "unemployment problem" was not temporary but would continue with us for years, possibly permanently. If true, this overturns our basic American philosophy of Opportunity —that any man who will may work.

Possibly the most interesting thing at the meeting was the emphasis given to the idea that "all men want to do good work." Industry is only beginning to realize that this is true. The old idea, still held by many inspectors and foremen, was that "every man is just as lazy as he dares to be". When I was in school that was given to us as a fundamental principle of economics. You can readily see what the difference in a foreman's attitude will be, depending on which idea he accepts. If he believes the latter, he will be inclined to "ball-out" the man who does poor work, while if he accepts the former he will first try to find out why.

There are many reasons besides laziness: the man may not know, he may be on the wrong job, he may not be well--reasons over which man has no control. In such cases threats intensify rather than remove the difficulty.

The two best papers were, I think, one by Ordway Tead of Harper and Brothers and the other by Dr. Willits, Professor of Industrial Management, University of Pennsylvania. These papers will soon be published. Ask your librarian for them. They will interest you.

The conference discussion on employee training brought out a number of interesting ideas and trends: First, and possibly the most important, is the recognition of training as a Management responsibility. Next, the trend away from Company "schools", with fewer lectures and less dependence on written things, as well as on training by special men. There is more training on the job and more use of the group conference. A very decided trend is toward the development and use of a "technique" in group conference work, and also toward the use of this technique higher and higher up the line. Like job analysis and many other things, it began at the bottom and is slowly working its way up.

Our Service has always depended a lot on conferences and has got a lot of good from them, but so far we have given little attention to technique. It is possible that here, just as in silviculture or road construction, the technique is worth studying. It is also probable that when we once get the idea, our men may add materially to the development of the technique. Probably no organization has greater opportunity for its use. And, by the way, there is a new book out on "The Process of Group Thinking", by H. S. Elliott. Ask your Regional Librarian to get it for you from the Department Library.

As said above, the depression has caused an intensification of training work. It has also caused many companies to re-analyse their training problems, to find more definitely their need and to determine from what kind of training they get best results. Results have never been studied so intensively.

Selection is also becoming more intensive and more weight is being given to education. It is estimated that this year Industry will take only 20 per cent of the normal number of graduates but that the competition for the pick of these graduates will be greater than ever before. That is, the depression has intensified the trend toward the recognition of the value of good men over just men. This competition for the select college men rather than numbers of college men is expected to increase.

There was also a great deal of emphasis on the need for more intensive picking of men from the ranks for further training and advancement. Not all good men go to school. Always there have been men who have come up from the ranks and probably there always will be. Be on the lookout for them and help them along. Watch their attitude toward new ways and new responsibilities and also watch the attitude of the man's associates toward him. If he is a natural leader it will show. When you think you have such a man, give him a chance. Give him training but also do not neglect his education. If he goes ahead he will need that too. One of the best ways to train him is to have him train others. This forces him to learn all the details of the job he is teaching and also to develop leadership. If this idea is correct, our training districts, recommended by the Regional Foresters' Conference, will serve a double purpose--they will train the ranger as well as the assistant ranger. I wonder if rangers should not be selected with that in mind.

While new men must have training, the old men should not be neglected. Give everybody a chance. Direct training, that is, training that applies directly to the job, should be done on company time; indirect or background training should be done on the employees' time. While this is generally accepted there are exceptions. I do not believe we should attempt to follow it too strictly. It is too often difficult to say which is which. The distinction is not clear-cut.

Another decided tendency is toward "meetings"--more meetings and meetings further up and down the line. These meetings are of all kinds and sizes. Large meetings are informational. Somebody "tells" something. These include all ranks. The small meeting is restricted to two or three grades, usually adjoining. No one seems to have tried the small conference covering all or nearly all grades such as we have used in the Service. The small meeting has many purposes --emotional, training, informational. As conferences increase committees tend to decrease. "If you delegate authority down the line you must have some way of securing the certainty that the man down the line knows the desires of management and has knowledge of its aims and policies." This is in part responsible for the increase.

The discussion of "public-contact" training indicated increased interest in that subject, as well as considerable development in methods. A pamphlet on this subject will be published soon by the Association. Lectures and printed material are still used but are not depended upon so much as they were. Printed matter is now used largely as a follow-up to training on the job or in group conferences.

The thing that interested me most of all was the emphasis now placed on tests. Do not consider a man trained because you have given him training; give him a test on the job and find out how much he has learned and what he still needs. This applies even to "contact" training. Have a part of the public "contact" your trainee and report on how he responds. Such methods are now in common use by public utilities and others and seem to be accepted by employer and employee on the test basis for use in training and not as a form of spying. Here as elsewhere the training job is not complete without the test. Without it what basis have you for improving your training program or method.

Trends in public relations are just as interesting as those in personnel. Here, too, we seem to be going along with others. Some of the things emphasized were: that few organizations have the right kind of public relations. That public relations means relations of all employees to all people. It is not something that can be handled by a Vice-President. It must be the work of everyone who has any sort of contact with any part of the public, and no contact should be taken for granted. If relations with employees are not right, they will not be right with public, etc. Nothing new, but great emphasis on fact that publicity is not public relations and public relations is not publicity.

THE FOREST

Ed Marshall, former Supervisor of the Chippewa National Forest and the first man in charge of the Forest at Cass Lake, was here last week from Cloquet and stopped into the office Tuesday for a chat.

While we were talking with Ed, we thought back about twenty-five years, when Ed had charge of the Forest. Forestry at that time wasn't popular, as it is now. The people who made up the old town were sawmill people with years of tradition behind them and that tradition taught them that forests were to chop down and to log off clean and get out of the way, so that the farmer could grub out the stumps and plow out a farm.

We looked at Ed. He was a young man when he came from Cass Lake. He is twenty-five years older now. He has lines in his face, and we are sure that some of these lines were put into his face while he was at Cass Lake, trying to convince some of the timber clans that the forest should be preserved and that it was the greatest asset that our town had.

We thought about the vitriolic editorials that we had set up in type as a "devil" and had later written as editor, condemning the Forest as a Chinese Wall and calling it all the detriments contained in the English tongue

We thought about the early days on the Chippewa National Forest, which at that time was called the Minnesota National Forest.

We thought about the Supervisor and his rangers throwing a packsack on their backs and taking off through the woods -- walking to where they wanted to go, for there were no roads through the forest then.

We thought about Ed Marshall and Joseph Donery and Howard Richmond and Harry Petheram and the rest of the boys working to get the Forest started, planting trees and watching them and tending them carefully while Cass Lake assailed them bitterly and laughed their efforts to scorn.

We thought about Ed Marshall trying to get money for planting, for building roads, bridges, and dams. We thought about the lobbies from Cass Lake that kept insisting that the Forest be opened for homestead settlement, and we saw Marshall and his men fighting against a bitter public opinion for every cent to be spent on the Cass Lake Forest.

We thought of the brilliant attempt not so long ago, to induce the members of the American Legion to "squat" on the Forest in an attempt to force open the Forest to homestead entry.

Through all this abuse of his Forest, Ed kept to his work, believing that the time would come when people would see the light and know the Forest was practical.

Then we thought of the mill leaving, and the change of thought that came with the leaving of the mill. We thought of our own home sawmill town of Oscoda, Michigan, asking the Government to create a forest on the lands logged off by members of our clan, after the cutover lands had lain idle for thirty years.

We saw Howard Hopkins take hold of the Forest and linking up with an enlightened Cass Lake citizenry we saw Hopkins begin to do great things in Cass Lake and with the passing of every day we saw it plainly demonstrated that the Forest is our greatest asset.

We saw the bolt mill and box factory resume operations, made possible by the continuous supply of timber from the Chippewa National Forest. We saw the truckers busy hauling and the cutters hard at work in the woods, and we saw these payrolls pour into Cass Lake.

Is forestry practical? Ask some of the men who fought the forest tooth and nail. Ask the man who had to be shown.

The Forest is the greatest asset Cass Lake has.- (Cass Lake Times) Clipped from "The Review," R-2 Annual.

THE TIMBER FAMINE IN THE EAST

It is hard for the members of the Forest Service, with the preponderance of its work and timber output west of the Great Plains, to keep in mind the realities concerning lumber production. Once a year, however, the Census figures come along to help us keep our balance. The latest statistics, released on February 19, are those for the calendar year 1929. As was expected, the lumber cuts of Washington and of Oregon surpassed those of any other State. But the denuded East, even the tide water States, are still putting a lot of lumber on the market. In 1929, Louisiana produced more lumber than California (2,232,360 M vs. 2,063,229 M) and North Carolina more than Idaho (1,202,377 M vs. 1,028,791 M). Then it is rather a surprise to learn that New York, with its announced timber scarcity and its million-acre planting program, cut more than New Mexico (159,591 M vs. 148,287 M); and New Hampshire more than Arizona (191,703 M vs. 174,594); and even Massachusetts more than Colorado or South Dakota (71,863 M vs. 71,535 M and 61,126 M, respectively). Montana's lumber production was about 55 per cent of that of Virginia (388,711 vs. 708.452 M) but did exceed that of Maine (257,910 M). And Wyoming and Utah? Well, Wyoming, with 25,629 M, climbed above New Jersey (15,576 M) and came within hailing distance of Connecticut (30,157 M); but Utah stays below even Rhode Island (5,301 M vs. 6,514 M) and made little progress toward passing Delaware (9,641 M). There is still a lot of forest-growing land in the East. The country has to look to the West for most of its upper grade softwood lumber, but in considering timber supplies and needs, it is a mistake to overlook the plain evidences of possible production of the lower grades in the Atlantic States – and not wholly low-grade material, at that.

E. E. Carter.

LET THEM IN ON THE SECRET

By C. E. Randall, Washington

Should primitive areas be advertised? Mr. Kneipp, in the Service Bulletin of March 2, has raised an interesting question.

As this contributor is convinced that advertising is largely what makes the world go'round, naturally he would say that they should be. Primitive areas should be advertised for what they are, – for their inspirational and educational value, for their appeal to the true lover of nature and to the man who likes his outdoors raw. But by all means they should not be ballyhooed as hot-dog havens.

In our primitive area movement we have something that is splendid, that is far-reaching and of increasing public value. Like every other great and good movement, though, it must be sold to the public if it is to have adequate and continued public support. Unless our friends, the People, concur in the idea, we'll never get very far with it. And will our primitive areas, by the way, serve their highest public value if their existence is kept a deep, dark secret among ourselves?

Any advertising that paints the primitive areas in false colors will, of course, tend to defeat the purpose for which they are created. If they are publicized as popular resorts, either by actual words or by suggestions, the clamor will arise to make them so. Therefore we must be careful in our publicity to emphasize their true values.

That class of persons who can appreciate the real, primitive values of our areas is, I believe, very large. It takes in many more than the mountain climbers, the sportsmen, the rugged frequenters of places of solitude. Many a man whose adventurous expeditions take him no father than the downtown movie, thrills at reading, talking, and day-dreaming about life in the great outdoors and the grandeur of nature. Even though he enjoys his outdoor adventure by proxy, he's all for it. It is to this love of nature at its wildest, that is in most of us, that our advertising of primitive areas should direct its appeal.

CONGRESS APPROVES PERSONAL INJURY CLAIMS

An Act passed in the recent session of Congress authorizes reimbursement to widows of two former members of the Forest Service, in accordance with the Employees' Compensation Act, their claims having been rejected by the Compensation Commission. The two members of the Service, Forest Supervisor G. F. Allen and Forest Examiner A. A. Griffin, while engaged in suppression of a fire in July, 1922, became seriously ill following a dinner served them at a small cafe. It was rumored that at least two temporary firefighters also had suffered ill effects from the meal. Mr. Allen and Mr. Griffin lived slightly more than two years after the illness at the fire camp. A short time before Mr. Griffin's death reports of injury were presented to the Commission. Later the claim on account of death was rejected on the ground that the illness that resulted in death could not be considered as proximately caused by food poisoning in July ,1922. Those familiar with the case felt that there was no doubt that the ailment was the direct result of food poisoning at the fire.

Because of the peculiar facts in these cases an effort was made to have Congress pass a special bill authorizing payment, it being felt in the Service that the Commission's findings were not correct. Repeated efforts were necessary before favorable action was taken by Congress. In the fianl bill the claims of both Mrs. Griffin and Mrs Allen were covered. Mrs. Allen's claim was not presented to the Commission for several years following Mr. Allen's death znd was necessarily disallowed under the terms of the Compensation Act, regardless of merit, because the act does not authorize allowance of claims that are not presented within one year after the injury. Although the Commission's actions on claims usually have been liberal there are occasional differences of opinion between the Commission and the Service concerning action on individual claims. When that happens and the circumstances seem to justify further action for relief of the disabled employee or dependent, the only means of assistance is through Congress. - H. I. Loving

YE EDITOR DISCOVERS

The Forester on March 12 issued an order establishing the Gale River Experimental Forest out of the present area included within the White Mountain National Forest. This is the first Experimental Forest so far officially established under the new regulation for primitive, natural, and experimental areas.

Approximately 1320 acres are included in the Gale River Experimental Forest, mostly in the spruce types. The area lies between two State automobile highways, making the tract readily accessible for exploitation in the development of research projects. Although it is only now being formally recognized, this Experimental Forest has been in existence since July 1927. The Northeastern Forest Experiment Station plans to develop this area very rapidly within the next few years, placing within it much of the Station's permanent sample plot work.

- - - - - - - -

Over 20,000 acres were planted on the National Forests during 1930, and the Regional planting reports indicate that 25,000 acres are not too much to expect in 1931. The acreage has been gradually increasing from the low point of 5,500 acres in 1921, as the result of a series of small increases in the funds available for this activity. The planting appropriation has doubled in the decade but is still insufficient to put planting in balance with other Service activities. The additional funds have been used chiefly in Region 7 and 9, where planting is cheaper than in the West. Also, increases in the scale of operations have given lower unit costs. Rounding off the figures for the different years, a 100 per cent increase in appropriation has resulted in a 400 per cent increase in area planted annually.

- - - - - - - -

The National Forests contain many areas apparently of highest value for water storage, for power production,or for irrigation, but they may not, however, be used for such purposes for many years to come. In the meantime, they frequently afford the best locations for highways or roads, for resorts and commercial enterprises, and for summer homes. Because of their evidently greater value for water storage which would be incompatible with their use for these other purposes, there naturally is reluctance on the part of special use permittees to make any considerable investments in improvement unless assurred of an adequate minimum period of occupancy, or of compensation for the unliquidated value of their improvements.

To meet this situation, a plan tentatively was developed under which the special use permit while providing for the evacuation of the area upon notice would also provide for the payment to the special use permittee, by the power licensee, of the unliquidated part of the special use permittee's investment, which was to be determined by depreciation of the investment at the rate of 10 per cent per annum, or some other equitable percentage of amortization.

The first question, however, was whether the Secretary of Agriculture would have legal authority to authorize such an arrangement and, if the arrangement were authorized, whether the special use permittee could sustain it in the courts. An opinion from the Solicitor under date of March 10 holds, however, that no such authority exists, except possibly to the extent it is established by section 24 of the Federal Power Act, which of course requires the prior concurrence of the Federal Power Commission. The concluding statement in the Solicitor's opinion is as follows:

"In issuing special use permits for such lands care should be taken that they be strictly limited to those which contemplate a mere temporary use. Where any improvements are contemplated the matter should be taken up with the Federal Waterpower Commission under the provisions of Section 24."

- - - - - - - -

The forest is more moist than cut-over land. This is borne out by studies of humidity records made by Simson of the Pacific Northwest Forest Experiment Station.

Humidity determinations were made under a Douglas fir forest and in the open. There was only one-third as many hours with humidities below 35 per cent in the forest as in the open. After the forest had been cut over there was 109 per cent as many hours below 35 per cent relative humidity as there was in the open station at the same time. Thus removing the forest increased the number of hours during which the humidity was below 35 per cent by 2½ times.

- - - - - - - -

"How to Judge a House," an 84-page book outlining the more important consideratilns in regard to structural features of the average house and its planning and design, has just been issued by the National Committee on Wood Utilization of the Department of Commerce.

The new book is written in light, readable style, and the prospective home buyer is taken on a tour of inspection throughout the house - from basement to attic. Copies of the book may be obtained from the Superintendent of Documents, Washington, D. C., or from the offices of the Bureau of Foreign and Domestic Commerce located in the principal cities of the United States, for 10¢ a single copy, $7 a hundred, and $50 a thousand.

REORGANIZATION OF THE FOREST SERVICE IN 1908

By Joe Santucci, Washington

In 1908 the Forest Service had grown to a big organization occupying the entire Atlantic Building. In the summer of 1908 Mr. Gifford Pinchot started a reorganization to place six Districts throughout the United States.

Mr. Paul Redington, now Chief of the Biological Survey, was assigned by Mr. Pinchot for this task of reorganization, and it was some task as Mr. Redington will tell you.

The clerks of the office, something like 200 or perhaps more, were given according to their reasonable excuses the District they preferred. Well around December, 1908, the reorganization was started and by Christmas time the Districts were in operation. I started two months ahead and went to Ogden to assist in opening the Supply Depot. I was there about two months and on account of Mrs. Santucci's health was transferred to Albuquerque, New Mexico, District 3. I arrived in Albuquerque about three weeks before the bunch arrived. Mr. D. D. Bronson was Inspector, stationed at Albuquerque and Mr. Mattoon Supervisor of Manzana.

I started operation to have the office in readiness when they arrived. We occupied the Luna Strickler Building on Gold Avenue & First Streets. I shall never forget the day of their arrival, after seeing Albuquerque they wished they had remained in Washington. I don't know how the other Districts shared in this respect but Albuquerque in 1908 was enough to make anyone start back East. But let me tell you we had a fine personnel, such men as A. C. Ringland, Clapp, Recknagel, Woolsey, John Kerr, A. S. Peck, Marsh, Kircher, A. O. Waha, and Morris, and the Chief of Maintenance, Mr. Bunton, say, he was a prince of a fellow. During dull times at the office we played pool together.

I want to tell you a little story that occurred. The clerks were constantly coming in late mornings and Mr. Ringland, our District Forester, told Mr. Bunton to put down the names of those who came in late, but we had two entrances to the office from different streets and Mr. Bunton told the clerks if they were late to come in on First Street instead of Gold Avenue, so so he wouldn't see them. Well to my knowledge the same bunch was late but Mr. Bunton didn't have a darn name down except one, and that was Mr. Ringland our District Forester. Mr. Ringland then decided that the system was bum and told Bunton to forget it.

GRAZING ANIMALS HAVE THEIR WHIMS

As ranges improve under lighter stocking, allowing many species of vegetation to make a fair growth, one very noticeable fact on some ranges is that grazing animals show preference for various species of forage. This selectivity is sometimes readily apparent as between species having relatively high palatabilities. Recently in riding over two cattle allotments, patches of blue stem of varying size in almost pure stands were observed to be quite heavily grazed while surrounding areas of grama were very lightly used. The variation in palatability as to class of stock was also shown, by an adjouning sheep allotment in the same type where blue stem was scarcely touched and the grama was quite heavily used.

Paul H. Roberts - Sitgreaves.

HOW TO EXTINGUISH A FOREST FIRE

1 Throw patent cigarette lighter into midst of fire. There is a natural antipathy between fire and cigarette lighters. Flames will die out at once.

2. Spread luncheon cloth on grass, produce plate of sandwiches and announce in a loud voice it looks like a nice day for a picnic. Rain will pour down immediately, destroying forest fire and sandwiches. - Clipped.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 14 Washington, D. C. April 6, 1931

FIELD CLASSIFICATION LEGISLATION

By H. I. Loving, Washington

A new classification act (H.R. 17173) which will prove of interest to all employees of the Service was introduced in the House of Representatives by Congressman Lehlbach on February 18.

Although the bill failed of passage (in fact there was no idea it would be enacted on account of the limited time available), it will undoubtedly come up again when the new Congress convenes in December, and for that reason certain features of the bill are being reviewed for the benefit of all concerned.

The present law applies to the District of Columbia only, while the proposed bill extends classification to the field.

No change is made in the administration of the law except that the bill provides for the appointment by the personnel classification board - consisting of the Director of the Bureau of the Budget, a member of the Civil Service Commission, and the Chief of the Bureau of Efficiency - of a Director of Classification who, under the direction of the board shall exercise and perform all powers and duties which the board itself is authorized to perform. This provision is designed to enable the board through the Director to function 100 per cent of the time.

The board is authorized to review allocations by grades and classes and, subject to the approval of the President, change allocations whenever in its opinion the facts warrant. Such adjustments shall be made only after consultation with the heads of the departments concerned and affording incumbents of all positions affected an opportunity to be heard. In cases where the board changes the allocation of a position to a lower grade or class, the rate of pay fixed for the position prior to such action may be continued so long as the position is held by the employee then occupying it.

Under the present law there are seven steps or classes in the ordinary grade. The new act has reduced these to five, resulting in a greater spread between the steps or classes. The minimum salary in the grade is as a rule slightly higher than under the present law and in some cases the maximum is greater. For instance, under existing law the initial rate for P1, SP6, and CAF5 grades is $2,000 per annum, with increases of $100 for each step up to $2,600. Under the new act the initial rate is $2,050 and the different steps $2,170, $2,300, $2,450, and $2,600. It will be noted that the increases are not uniform for each step but in most cases increase slightly with each advance. This principle is also followed in other grades.

Perhaps the greatest difference between the proposed act and present law is in the matter of promotions. The new bill provides for automatic promotions at the end of each year's service, provided that (1) the employee has attained a rating of "good," and (2) Congress has appropriated money from which the increase in compensation may lawfully be paid. The present authority to promote an employee from a position in one grade to a vacancy in a higher grade remains, of course, without change.

An employee rated "fair" is not eligible for promotion, and if he or she is receiving a salary in excess of the middle rate of the grade shall be reduced in salary one step. An employee rated "unsatisfactory" must be reduced in grade or dropped from the rolls.

The "average provision" in the current law would be rescinded.

WILD YOUTH

By K. Wolfe, Flathead

Mr. Kneipp's article in the Service Bulletin of March 2 is timely and to the point. Now is the time to determine a general policy with regard to our new born child. But, like the fond parents of real children, we might just as well realize that our offspring are very apt not to follow where we lead them. We can, and should, determine what the Forest Service policy with regard to our own advertising of Primitive Areas shall be, but aren't we up against it as far as the control of advertising by other agencies is concerned? A Primitive Area which is of commercial importance will be advertised by commercial interests in proportion to its revenue producing value - regardless of our policies. If this is the case, why not treat such areas the same as we do other recreational opportunities offered by the National Forests? Why not let the advertising that they will ordinarily get in the regular administration of the Forests suffice - without any special attempt being made to conceal or reveal their existence?

If we adopt such a policy, my hunch is that real primitive Primitive Areas will not be widely advertised - or if they should be, they will cease to be primitive. Crowds of users would be the only justification for extensive advertising and crowds are in direct contrast with "primitive," "wilderness," "natural," etc. We think that primitive areas are really worth while or we wouldn't establish them - let's not nullify our own actions by advertising. Let's try to keep these new kids of ours wild, then if commercial interests civilize a few of them, simply admit that those few have inherited tendencies too strong for us to handle.

NEW DEPARTURE IN LAND CLASSIFICATION

By L. F. Kneipp, Washington

The Naches Pass Highway through the Rainier National Forest, which recently was completed, has opened up an area of outstanding scenic beauty and will attract many visitors from all over the United States, since the road will be one of the main means of access to the Puget Sound country from the East. Recognizing its importance, the Regional office some two years ago initiated a careful plan for the administration of all National Forest lands contiguous to this road. This plan incorporates several previously prepared recreational project plans involving areas of outstanding value for summer home and resort purposes and also embraces all intervening land abutting on the highway. The plan was developed in close cooperation with several local groups or organizations primarily interested in the recreational and scenic development of the State of Washington, and has received their very hearty approval and support, which has found expression in many statements commendatory of the work of the Forest Service.

A year or so ago the suggestion was made that the lands contiguous to this highway be designated as the Mather Memorial Parkway in honor of the late Stephen T. Mather, former Director of the National Park Service. The Forest Service indicated its willingness to be guided by the views of the local agencies, which proved to be unanimously favorable to the proposal. The project was temporarily arrested by the proposed inclusion of the middle segment of the highway within the boundaries of the Mount Rainier National Park, which actually was authorized by Congress just before adjournment. However, Region 6 concluded that the two remaining parts of the highway might nevertheless be appropriately designated as the Mather Memorial Parkway, and so recommended. This recommendation was approved by the Forester, and on March 24 Secretary Hyde signed a formal order of classification approving the designation of the lands as the Mather Memorial Parkway and providing that, while the order did not preclude utilization of the natural resources of the National Forest lands involved, such utilization and management should provide for the coordinated conservation of the scenic and recreational values and should be conducted in full conformity with the spirit and purpose of the classification order. In addition to being the first Region to secure the Forester's final approval of several primitive areas, Region 6 is also the first to propose and secure the approval of the special classification of National Forest lands abutting on a public highway of outstanding scenic and recreational value.

SELAH!

While we've been discussing and cussing uniforms in the pages of the Bulletin, the Committee for the Final Disposition of Pestiferous Problems has been at work, too. They have, Allah be praised, put an end to discussion, as the following memorandum proves.

March 21, 1931.

MEMORANDUM

In accordance with recommendations made during the conference of Regional Foresters a year ago a committee was appointed to consider the Forest Service uniform; to receive suggestions regarding it and on the basis of them to draw up a new set of specifications covering such modifications as seemed desirable.

This procedure has been followed, and although a wide variety of ideas were submitted practically all were in agreement at least on the plan for demilitarizing the style. In the new specifications which were recently approved by the Forester this has been accomplished by the elimination of the close fitting waist effect with the flare at the bottom of the coat and the substitution of straight line Norfolk patterns. The change is not great enough to make the uniforms now on hand obsolete.

Copies of the new specifications have been furnished uniform dealers and other clothing dealers and will be included in the Manual when revised.

As stated above the new specifications do not differ greatly from those which they displace. The color and fabric remain the same with the addition of forestry green tweed and Bedford cord as optional material. The major change in the coat is outlined above. In addition to the coat which, with the changes mentioned above, is quite similar in style to the recent one, a full Norfolk is included as an optional style. This has no yoke on the back or front and the straps or plaits extend over the shoulders. There is no material change in the style of the trousers or breeches. For those who care to wear them, knickers are included. These are not of the plus four variety. For headgear three styles are provided. The Western low sombrero or soft Stetson; a Fedora with snap brim and narrow ribbon or a silk cord, and, as a third permissible style, a hat of stitched cloth material, dark green in color. Among the optional accessories is a leather jacket. No provision is made for service stripes or silk insignia, although these markings, among other proposed and noteworthy changes, received much discussion in the deliberations with the committee. - E. W. Loveridge

HOW THE SERVICE GREW FROM THE DIVISION OF FORESTRY AND THE BUREAU OF FORESTRY TO THE FOREST SERVICE

By Joe Santucci, Washington

Well, here's the story in a nut shell.

It was in the year 1902, when I was appointed a messenger and say, they didn't pay messengers in those days large salaries. I got $30 a month. We had three floors and a handful of clerks. The furniture must have been loaned to the Service - it was far from new. I was telephone operator, messenger, and ran the elevator in case of emergency - all for $30 a month, with a wife and two kids to support. Try and do it now on $30.

Here was the personnel in 1902:

Forester: Gifford Pinchot
Associate Forester: Overton W. Price
Dendrology: Geo. B. Sudworth
Management: Thos. Sherrerd
Forest Extension: William Hall
Boundaries: F. E. Olmstead

It wasn't but a few years before we began to expand. We were on the top floor and couldn't expand up so we expanded downwards until we landed on the first floor, giving us the entire building.

Now I want to say a few words about the man who was Forester - Mr. Gifford Pinchot. Here was a man who, by his untiring efforts and hard work both in the office and on the Hill, with the Appropriations Committee, year after year, was rewarded by his hard work, that soon the Service - both office and field force, began to multiply. I remember the day Mr. Pinchot left on his trip around the world for the interest of Forestry and on his return shortly after struck his goal for a bigger, a universal organization, when he organized the six Districts throughout the United States in 1908, that spelled Progress. Mr. Pinchot was a man whose whole heart and soul was in Forestry and his pal Theodore Roosevelt was right back of him in any movement for the interest of Forestry. Most any evening during the summer months you could see Pinchot, Roosevelt, and Garfield playing tennis on the White House grounds. They were sure good old days for Mr. Pinchot, who is a real man and a real American.

Within a few months I will have seen 30 years in the Service and close to 60 years in age but, you can believe it or not, I feel like 30 years.

Recipe, (Hard work).

Joe had ended this article with the threat "This is my last article until I hit retirement age" but we have blue penciled it. Ed.

ECHOES FROM THE ANNUAL GET-TOGETHER

St. Joe will have 30 saddle-horse-equipped guard stations next summer and the Kaniksu guards, 12 in number, will be equipped with saddle horses.

Ranger Harrington reported that he rode to practically all his fires last summer and reached them as a whole rather than as a fractional part of a man, fit for a hard fight.

Ranger Coleman says: "Let's equip crews with 'Get There Quick Outfits' and 'Hit 'Em Hard' before the 'Burning Hours of the Next Day.'" He gave an inspiring account of doing just that on a fire last summer which started some 18 miles from his station, whereas if he had awaited the delivery of 25-or 15-man outfit by mule train the fire, in all probability, would have been well into the second work period before attack could have been staged. Enough said: The travel-light flying-squadron type of "getting there tonight" substituted for arrival tomorrow afternoon with a ton of stuff can't help but win good records.

Other rangers also told of saving the day by "ramrodding," as Ranger Fremming calls the Get There Right Now kind of action. He says: "Gun 'Em Through. Get the men on the job with their fire-fighting tools and chuck for a day, and the fire likely will be mopped up to point of safety by tomorrow."

Other rangers told tales of speed of crew action and night attack equally expressive of "Getting 'Em Young". The night attack and the promise held by it of "rounding 'em up" before tomorrow's burning hour is a master stroke.

As a result of these encouraging accounts of go-getting action and the trend of thought toward light outfits and elimination of dependence on the pack train for first hit by the second-line force, Jeff is busily engaged in working out specifications for tools and rations for the "sappers" -- the fellows who "take their own" and kill the potentially big Class C fire dead before the "next burning period comes." This done, the pack mule will be out of a job except as he does and when he can be used to transport the "sappers" and their light outfits to the scene of action. - From R-1 Bulletin

YE EDITOR DISCOVERS

The Southern California Association of Foresters and Firewardens held its second annual meeting at Avalon, Catalina Island, on February 21-24. According to a report from J. E. Pemberton, Assistant Forester of Los Angeles County, this association has already materially aided in obtaining needed County Ordinances and State laws, as well as the standardizing of present laws and ordinances. Its members have worked together to develop new types of motor equipment and there are now over thirty pieces of forest fire fighting tank trucks in Southern California. The latest model built for the Los Angeles County Forestry Department is a 600-gallon tank truck with a rotary pump ane power take-off. The increased mileage in the new type of firebreak, called motorways, has made possible a more extended use of motorized equipment in the mountains. The objectives of this association are the improvement of fire prevention methods, the lessening of fire damage, and the development of a close, friendly coöperation between all fire fighting organizations.

- - - - - - -

The French law of April 24, 1923, determined the usage of certain portions of the land in the French was zone. Of the total area involved, about 34,000 acres in 41 different communes are being placed under the administration of the French Forest Service. The two areas of most significance are those of Verdun and Dead Man's Hill, of 22,906 acres and 8,667 acres, respectively. Because of the danger from explosives that still may be buried in the soil, seeding is resorted to in certain areas, whereas in others where the danger is not so great planting is done. In some localities the seed is sown broadcast, in others seed spots are used. These are approximately 7 x 7', using about three pounds of seed to the acre. For this work Austrian and Scotch pine are used. The plantations are about 6 x 6', using a number of different species. Mixed plantations are used to a considerable extent. Douglas fir, spruce, sycamore, and locust, as well as pine, are set out. Where some woods still exist and there is hope for natural regeneration, underplanting is used, with 200 trees per acre. At the end of the winter of 1930, a total of some 6500 acres had been treated.

- - - - - - - -

The application of the Saturday half holiday law, particularly in the case of short term employees, has been found to involve so many questions and uncertainties that in some respects no definite policy can be laid down until after the Comptroller's decisions are secured. For example, it was originally believed that compensatory time for Saturday afternoons necessarily worked could be added at the close of a fire guard's period of employment. The only interpretation of the law which will have any effect is that from the Comptroller, and his decision must be had before it is clear what can be done. Reports from the Regions generally state that the use of relief guards to give fire guards periods of compensatory time during the fire season is not practicable.

- - - - - - - -

Assistant Regional Forester Wolff of R-1 has come forth with the following suggestion for a series of articles in the Service Bulletin:

"May I suggest that a very interesting set of articles in the Service organ would be a series on 'Who's Who in the Forest Service.' These articles should, of course, be brief and should emphasize the points of particular interest to the field in the life history of the men who hold the destinies of Forest Service work in their hands.

"I am sure that particularly the younger men in the field would be much interested, since there are many facts they do not know; for instance, I wager that many men do not know that R. Y. Stuart was once Assistant District Forester in District 1 in charge of Forest Management work; that E. A. Sherman was once Forest Supervisor and Forest Inspector in District 1, and that Roy Headley was once a Forest Guard in the Cabinet National Forest."

We heartily agree with Wolff, and requests for articles in this series will be made shortly.

- - - - - - - -

The following extract is from a letter to Herbert A. Smith from Will C. Barnes, written after he had read Joe Santucci's articles in the Service Bulletin.

"I nominate Joe for 'Editor in Chief.' Beats Ring Lardner or George Ade all to pieces."

We second the nomination.

- - - - - - - -

Recent visitors to the Washington office were Regional Foresters Peck, Rutledge, and Tinker, whose visits were motivated by a variety of different objectives, primarily financial but including also such important matters as the new Forest Service building at Ogden, etc. So far as the 1932 allotments were concerned, there were expressed opinions of inadequacy but restrained indications of reasonable satisfaction. However, the general tendency to honor and observe the compact of 1930 was strikingly conspicuous, and the physical presence of three Regional Foresters at the point of financial distribution had no adverse effect upon the financial welfare of unrepresented Regions.

- - - - - - - -

Raphael Zon of the Lake States Forest Experiment Station was another recent visitor to the Washington office. His visit was for the purpose of discussing the development of his station's program and some of the phases of the new work to be started in North Dakota this year. Congress provided $15,000 additional this year for investigations into the possibilities of forest planting in the sand hills of North Dakota and for a study of the effect of windbreaks in this region.

OUR TIMBER SALE BUSINESS

By H. Hopkins, Washington

The gradual increase in the total National Forest timber sale business can best be seen at a glance by reviewing the sale receipts records for the last ten years, which are as follows:

Fiscal Year	Total Timber Sale Receipts	Relation to Total Timber Sale Receipt of F.Y. 1930
1921	$1,694,737.02	39%
1922	1,780,347.24	41%
1923	2,641,244.08	61%
1924	2,958,280.84	68%
1925	2,859,651.66	66%
1926	3,299,889.28	76%
1927	3,206,832.82	74%
1928	3,262,506.51	75%
1929	4,050,473.20	93%
1930	4,337,543.07	

The timber sale receipts during the fiscal year 1931 will undoubtedly reflect the current general business depression, but when normal business conditions return the Forest Service should be prepared to handle a gradual increase in timber sale business. The records of our sale business during the past decade certainly indicate that such a future increase may be expected.

DEATH OF ANNIE E. HOYLE

The death of Mrs. Annie E. Hoyle, long an employee of the Forest Service, was recently announced. She was retired on August 31, 1930, after over 23 years of service, including five extensions of time since reaching retirement age. Mrs. Hoyle was an artist in the Forest Service, where her best known work was in connection with dendrological bulletins, beginning with "Forest Trees of the Pacific Slope." She made upwards of 160 drawings of range plants for what is now the Division of Range Research. Practically all the drawings in the familiar State pocket manual series, "Forest Trees", bear the artist's initials - "A. E. H."

LONG MOTOR TRUCK HAUL

In the R-6 Annual Planting Report for 1930 there is a discussion of a planting project on the Olympic Forest located on a former sale area which, unfortunately, burned over just as the sale was closing. The presence of the old railroad grade traversing the area favored low costs. By constructing half a mile of road, this old grade was connected with the highway system. The Report continues:

"A feature of the operations which constituted something of an innovation for Olympic projects, was that all trees were transported from the nursery direct to the area by Service truck, a distance of approximately 300 miles. Though slightly cheaper, the greatest advantage of this method lay in avoidance of delay and frequent rehandling of the trees. Previous shipments had been by a combination of express, boat and truck, which required from two to three days' time and ten to fourteen separate handlings of the trees in contrast to one and one-half days' time and only two handlings this year."

It is obvious that the trees reached the planting area in good condition because the average first-year survival was 95 per cent. There was no chance for the trees to heat in the bundles in transit. This very great advantage in the quality of results would have made the truck haul desirable even if it had not been "slightly cheaper." - E. E. Carter

FOREST LEXICOLOGY

By Margaret March - Mount, R. 9

'We see by the press,' Associated, et al, that at the age of two years the Great Lakes Region has learned to talk, and add technical slang to the lore of the original Forest Rangers, the cowboy, and the lumberjack.

"Average stocking per foot at the nursery beds" is not a Christmas bed-time yarn, but a "crib" from an inspection memo. of Asst. Regional Forester Wales. Nor do "board feet" necessarily go with wooden legs, but is a standard of timber measurement.

"Crawlers" and "caterpillars" have nothing to do with entomology, but with tractors for turning up furrows for seedlings; "alligators" belong to the machine age of logging.

"Caches" are not only storage places for fire tools, but also for the squirrels' hoard of nuts - to be officially ravaged by the ranger for replanting and future food supply.

"Broadcasting" doesn't mean sowing tree seeds to the wind; seedlings are set out "row upon row."

"Selectivity" means cutting the right tree from the right place at the right time (according to the Lake States Forest Exp. Sta. Research Bulletins); and "permanent" applies more to the attainment of a perpetual timber supply than to the prevailing brands of the electric irons of the beauty stylist.

Nor do "ear-phones" necessarily mean radio, so much as fire detection. "Get-away" means the shortest time between the "hay" and the "hot-spot"; and a "straw boss" is 2nd lieut. to the crew boss. A "smoke-chaser" is the man who puts out the fire before it is one - before it attains "a local habitation and a name." (Shak.) (Milwaukee reporters here inserted "according to Chief Forester E. W. Tinker, and now he will have to use slang in a speech before the Hoo Hoo's.) "Sitting tight" is the job of the ranger at high fire hazard times.

"Patrol" hasn't anything to do with the police, but has everything to do with keeping a fire "down and out."

An "aneroid barometer" has nothing to do with adenoids, but is used with an "altimeter" - part of the field fire equipment.

"Broadcast burning" is a forest demon, as opposed to the bonfire method of piling up slash before burning. (With apologies to Asst. Reg. For. Crosby A. Hoar.)

"Johnny Inkslinger," scribe and secretary, still has his "bull of the woods," manager of Ann Arbor Summer Forest School in Northern Michigan, and "bunkhouse bards" are still heard in the old lumber camps.

To the young man of the trees, "mistletoe" is quite the reverse of his romantic concept; when he is writing his thesis it is a deadly pest and parasite, clinging to young saplings and old sawlogs, until at last it destroys its host and itself.

There is "match-making" in this second-growth generation in the Lake States, of both the human and the safety variety.

A Biltmore stick isn't a Broadway cane, nor is a "logarithm" the song of the silviculturist; Iowa grads. have learned that a "log scale" isn't an insect, nor "forest litters" bunches of young trees.

"Wild life" doesn't necessarily mean night clubs, but refers to the fins, furs, and feathers of the Forest. (Of all the wild animals in our woods, the red-capped hunter is the wildest and most dangerous.)

"Dudes" and "dudelings," "woollies and cayuses" browse the Shoshone ranges of Supervisor Langworthy in the Wyoming Rockies; but the Lake States can boast of but a few Indian ponies, permitted by former Supervisor Hopkins on the Chippewa.

The "raising of steel" means the pulling up of old logging roads; and "getting out of a rut" probably had its origin in the sand rut roads now being transformed into fire protection ways.

Little "ghost towns" are shedding their shrouds and going beauty-minded.

The Lake States forest soils are "reverting to type" - replanting the native white pineries. At the end of two years, a dozen potential National Forests are taking form, where there were only three before.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 15 Washington, D. C. April 13, 1931

PURRING PR

By O. E. York, Bitterroot

One of our native characteristics seems to be to "grand stand," which we proceed to encourage by idolizing the topnotchers in the realms of sport, aviation, high finance, politics and other lines of endeavor. At the same time we frequently lose sight of the teamwork, mechanician, contributing widows, or silent partners by whose sacrifice or efforts the peak has been attained by the Star. "Project" is one of our topnotchers, while "Current" is in the teamwork class, and the poor widow "Incidental" contributes of her scanty means to any and all activities as necessity may direct.

There is much satisfaction in getting a worth-while job done and out of mind, for this reason Project Work has an appeal to all of us, PR work in particular. We can make our periodic bursts; ring up a more or less tangible accomplishment as measured in numbers of people reached, and then get back to business with a sigh of relief, that, that job is out of our way, at least, until the promise card bobs up again. I'd hate to do my eating and sleeping or taking of medicine on this basis, however, and in PR work the moderately small regular meals and doses are what is needed if we are to put on increased growth in cooperation and mental consciousness of our problems, or if the Public is to be cured of its infection of Anti attitude. To project PR as an advertising campaign used in connection with an active personal follow-up for selling our stuff is all right, but the said sigh of relief puts it in the wrong class as a completed task, where it does not rightfully belong.

The far-reaching effects of our movies, slides, lectures or show-me trips cannot be questioned. We need more of them. Their value can hardly be measured, but whether it is of the right sort or wrong sort depends sometimes entirely on the follow-up. It is not intended to belittle the results obtained through such projects but rather to point out the danger of getting into the mental habit of considering them in the light of finished business and neglecting the "daily missionary work," which is far more important, though not nearly so conspicuous or starry. The project work far from being an end in itself, imposes an added burden on us in our daily contact and furnishes our customers with a better measuring stick and knowledge of values by which to judge the Service as a whole, and you and I in particular. The free advertising of the "Walking Talkie," must be taken into consideration, particularly if it be of the wrong sort. It is hard to foresee what slant one of these birds will get on a show or other educational program. Prompt action in getting in touch with him after the show is therefore required if we are to correct any wrong impressions before they are broadcast.

An ever increasing number of people are coming into our offices and camps each year, meeting us on our home field where we have all the advantage. How many of these do we let slip through our fingers without getting a shot of some kind of PR Serum into the conversation? A goodly number, no doubt. How many private camps, berry pickers, fishermen, or hunters do we pass up without some comment as to their welfare, the abundance of fruit, fishermen's or hunters' luck, and a friendly admonition in regard to the size of their camp fire, or other pertinent point regarding the protection and perpetuation of the National and State Resources that they are enjoying? Do we go out of our way to visit homes, chat a while, admire a fine horse, help brand a few calves, or start a balky engine; creating a friendly feeling toward the Service and incidentally, purely incidentally, learning what makes Old Hardboiled Smith so hard? If we don't first do these things, why go out and hunt for public contacts? It sometimes looks as though we are out on a vain search for the Holy Grail.

There are places in R-1 where this kind of missionary work has been followed for years and resulted in bringing the community and the Service in such close harmony that it became evident to both that their interests were nearly if not quite identical. Recognition of its responsibility on the part of the community naturally followed and with it pride of possession. It became our ranger or forester, as he is frequently called, our forest, our timber, our range, our game and OUR FIRES. Where this spirit exists and is fostered a ranger has to get up and drift right along if he gets on to a fire before it is under control. Woe betide the person who is careless with fire. Late one fall while it was still very dry some woodhaulers built a camp fire that got away from them. A crew at a small mill discovered the smoke and quitting their work right away went to get the fire. While putting it out every available instrument, including beans and coffee, was used and quite by accident the guilty parties' tools were ruined and the law laid down to them to such an extent, that despite the fact that dame nature had clothed the hills with a six inch carpet of snow before morning, no breakfast fires were lighted and the teams were on the road before daylight. Unquestionably too drastic, but very direct and effective. The ranger had difficulty in keeping his face straight the next morning while getting the dope on the fire, and after officially bawling the crew out for being so rough made haste to get behind a deck of logs where he could roar to his heart's content. Many of the other problems and burdens of the ranger are lessened because the folks understand what he is up against and are in sympathy with the work.

Are you an integral part of your community or merely another "Government Man"? You say your community is different? You bet! So is mine and so is each individual we meet, thanks be. Of course we are bound to have the occasional conscientious objector to contend with. He is agin everything in general and you in particular, because you are the nearest representative of the Government and stand for proper control. The more y9u romp on him the better, but for the rest, talk not to me of time or place nor mention numbers present. Now is the time and this is the place, purr ranger purr and keep everlastingly at it.

FIRE FIGHTERS NOT ENTITLED TO COMPENSATORY TIME

The Secretary of Agriculture recently referred to the Comptroller General for determination the question whether fire fighters may legally be allowed compensatory time under the Act of March 3, 1931, for work on Saturdays in excess of four hours. The Comptroller replied in the negative stating in effect that there could have been no intent on the part of Congress to include employees hired during an emergency with compensation for time actually worked, when the nature of the emergency itself permits of no delay nor the fixing of standard hours of labor. Regular employees hired on a monthly or yearly basis who engage in fire fighting on Saturday in excess of four hours are clearly entitled to compensatory time therefor under the decision. - H. I. Loving.

ACREAGE OF NATIONAL FORESTS

We had occasion sometime ago to tabulate by years the gross and net areas of the National Forests from the beginning, 1891, to date. Possibly that information may be of some interest to Bulletin readers.

Up until 1913 only gross areas of National Forests were kept and the areas in the net column from 1891 to 1913, inclusive, are estimates based on the percentage of alienated land which was found to be in the National Forests by actual tabulation in 1913.

National Forest Areas
(thousand acres)

Year	Gross	Net	Year	Gross	Net
1891	1,239	1,078	1911	190,608	165,829
1892	3,254	2,831	1912	187,406	163,044
1893	13,417	11,673	1913	186,617	165,517
1894	17,928	15,597	1914	185,321	163,849
1895	17,928	15,597	1915	184,506	162,773
1896	17,928	15,597	1916	176,796	156,107
1897	39,103	34,020	1917	177,199	156,114
1898	40,866	35,554	1918	178,084	156,507
1899	46,168	40,167	1919	175,609	155,281
1900	46,515	40,468	1920	180,300	156,032
1901	46,324	40,302	1921	181,820	156,666
1902	51,896	45,150	1922	181,800	156,837
1903	62,211	54,124	1923	182,100	157,237
1904	62,611	54,472	1924	182,817	157,503
1905	85,693	74,553	1925	184,126	158,395
1906	106,994	93,085	1926	184,124	158,759
1907	150,832	131,224	1927	183,938	158,800
1908	167,977	146,140	1928	184,404	159,481
1909	194,505	169,220	1929	184,565	159,751
1910	192,931	167,850	1930	183,976	160,091

SELECTIVE LOGGING VS HIGH GRADING

By E. N. Munns, Washington

There have been almost as many ideas about selective logging and what it means as there are States. At one extreme are those who believe it means cutting so as to maintain the stand, and then at the other extreme are those who believe it means culling the forest of its best trees.

One trouble with the method is that, in the hands of those willing to warp their ideas of silviculture, selective logging means "high-grading." As applied to the forest, high-grading is an old practice. It has been in effect for many years and everywhere has resulted in loss to the forest. Before foresters recognized real silvicultural selective logging, high-grading was the method used by the European operator. Thus over 100 years ago we find that one reason advanced for the poor forests in Sweden and elsewhere was the elimination of the best trees through constant culling, which left the poorest trees for seed or for added growth.

In our desire for the general adoption of forestry measures, it is but natural for us to attempt to modify our requirements so that the industry will be given an opportunity to make good. There are places where our cutting methods have not met with silvicultural success, but let us be able to continue saying that they are the result of our lack of knowledge and experience, and not acknowledge them to be the result of non-application of known facts. We need to be on our guard lest because of the lack of clearly or well defined objectives we permit the forest to degenerate under misapplied selective logging.

EDUCATED TROUT

By Ray Peck, Grand Mesa

Fishing undoubtedly furnishes the incentive for most of the recreational use of the Forests. Probably three-fourths of the visitors to mountain resorts come to fish, and the human use increases or decreases in more or less direct proportion to the willingness of the trout to take the hook. Since this is true, what is to be done if the fish acquire knowledge of how not to be caught quicker than the fishermen acquire knowledge of how to catch them?

When the Grand Mesa Lake region was first opened up by auto roads, any novice could land trout with almost any device. Since then, things have changed. Owing to an excellent hatchery that supplies all the young trout the waters will support, there are more fish in the lakes now than ever before and they can be seen by the score swimming around the edges of lakes, making faces at the tourists.

This education, like all education, took time, cost the lives of many trout and resulted in the loss of much tackle.

Angleworms and ordinary flies were in the primary course, but after the first year it was a poor fish indeed that would fall for these. For a short time afterwards the Hildebrand spinner proved too alluring and great was the fall of the finny tribe. Next came three feet of tinware and red beads known as the Davis spinner, and many trout succumbed but most of these were probably of the weaker sex. Someone discovered that canned shrimp and cove oysters were bait that trout simply could not resist, and until Salmoirideus and Salvelinus Fontinalis learned to distinguish between the free-floating shrimp or oyster and the piece with a hook attached, their numbers were sadly reduced. Trout seem to prefer to be reared in hatcheries and lead a pampered life in their youth, and for that reason eat all the spawn they can find. Men took advantage of this weakness and using salmon eggs, again fooled the poor fish but not for long. Any form of bait is now pickings for the trout; if a shrimp, oyster, or spawn is let down into their midst they look the outfit over carefully, and if the bait appeals, they swim by and knock it off the hook with a simple twist of the tail and devour it at their leisure. Canned corn, hominy, hellgramites and sucker meat have all had their innings.

Last season the expert fishermen resorted to dry flies attached to tapered leaders and thereby give the fish their B. S. degree.

"What's their weakness now?" is often asked but seldom answered. The law of the survival of the fittest has made them immune to ordinary attack, and they can now say, "Come on, you fishermen."

OUR TIMBER SALE BUSINESS F. Y. 1930

By H. Hopkins, Washington

Brief mention of some of the events of interest in the timber sale business during the fiscal year 1930 may be given by Regions as follows:

Region 1 received its largest timber sale receipts since the fiscal year 1925. In connection with preservation of future timber sale business the Region handled the largest insect control job in the history of the Forest Service.

Region 2 secured the largest timber sale income in its history. It also put up for sale after strenuous "salesmanship work" the largest pulpwood sale ever offered by the Forest Service outside of Alaska.

Regions 3 and 4 both made a new record for total gross timber sale receipts, securing the largest amounts from timber sales in their history.

Region 5 passed the million mark in timber sale receipts for the first time in its history and led all other Regions in volume of timber sale receipts for the first time since 1926.

Region 6 secured gross timber sale receipts of over one million dollars and the second largest volume of receipts in its history, this year's total being exceeded slightly by the gross receipts received in fiscal year 1929.

Region 7 passed the one-half million mark for the first time in its history and bounded from the rank of sixth to third place in Regional order based on timber sale receipts. It surpassed both Regions 1 and 2 in receipts from timber sales and was excelled only by Regions 5 and 6.

Region 9 completed its first fiscal year. Probably the largest amount of jack pine stumpage ever appraised by the Forest Service was sold from an area in the Superior National Forest, and the largest amount of aspen ever offered for sale by the Forest Service was advertised from the Chippewa National Forest.

A minor event, but one which marks an epoch in National Forest timber sale history, was the sale of over $140 worth of wood from the plantations of the Nebraska National Forest. The arrival of this "baby" in our timber sale receipts family is a cause for rejoicing by all.

AN INDEX TO SPRING

By B. C. Park, R-1

This is not an advertisement but a challenge to other States to produce this equal, of course excluding California which claims everything. The challenge happens to be a small plant, Townsendia parryi, which was picked in full bloom on January 23 by Ranger S. F. Harris at the Elk Creek Ranger Station on the Lewis & Clark Forest, Augusta, Montana.

Townsendia parryi is a member of the Asteraceae family, or by some botanists, the Composite family. The flower of this plant resembles a common aster but is smaller in size, usually being a little larger than a half dollar. The outer ray flowers are of purplish color, while the inner disk-flowers are yellow. According to the economic notes for this plant, it normally blooms from June to July 15.

The specimen seemed to be normal in every respect except that for this species (parryi) it had an unusually short stem. This plant was not growing in a sheltered place and was not subjected to any artificial conditions but was found on Horse Mountain at an elevation of 5300 feet, growing in rocky, shallow soil.

It seems almost incredible that this plant received the average or anywhere near the average heat units required by this species for normal flowering within the State of Montana in mid winter. Perhaps this will be of enough interest to someone having a knowledge of phenology who will offer a satisfactory explanation. At any rate, on the Form 767 Ranger Harris states in answer to the question of Use: "Index to Spring." If this is a true index to spring, Montana has spring in the middle of the winter.

YE EDITOR DISCOVERS

In the summer of 1929, Region 1 took a very strong stand that some method - drastic or revolutionary if necessary - should be taken to stop the immense number of fires being set by the Northern Pacific Railroad where it crosses National Forest land. The Railroad was burning a particularly bad sparking kind of coal.

Apparently one effect of the aggressive attitude taken by Region 1 was to revive consideration of a new type of spark arrester, the principle of which had been discovered by a railroad employee years before. Since that time this new type of centrifugal spark arrester has been refined, developed, and subjected to careful tests; and the Northern Pacific is engaged on an extensive program of equipping its engines used in mountain districts with this type of spark arrester. There is room to expect that this new type of spark arrester will prove to be the device needed.

The combination of aggressive executive action on the part of the Forest Service with the experience and mechanical competence of railroad experts seems to have resulted in a development of which the Forest Service, as well as the inventor and this particular railroad company, may justly be proud.

- - - - - -

A change in the Department's construction program will delay the removal of the Forest Service from the Atlantic Building for at least two and possibly three years, since the section of the extensible building in which the Forest Service is to be housed will not be completed for that length of time.

When completed, the new extensible building will be 1014 feet long by 457 feet wide and will be six stories in height. Present plans include the installation of a cafeteria in the building and sub-basements in which employees will be allowed to park cars at a rental rate of 10¢ per day. A tube system to facilitate the distribution of mail in the building is also contemplated. The extensible building will be connected with the present administration building by two overhead archways. At the present time the contractor is having financial difficulties which have necessitated the suspension of operations, but it is expected that these difficulties will soon be overcome and construction resumed.

- - - - - -

The yellow poplar does grow! Those who are accustomed to think in terms of Douglas fir, jack pine, or slash pine, should remember that there are some hardwoods that have an enviable reputation, and the yellow poplar is outstanding in this respect. In 1923 a plot on the Cherokee National Forest was measured. At that time the dominant trees were 48 years old and the stand contained 31,292 board feet per acre in trees over 12 inches in diameter. In 1930 the stand was again remeasured and the trees then over 12 inches contained 25,892 board feet, or an increase of 4600 board feet. This is an average annual growth of 657 board feet per acre.

- - - - - -

The chart contained in the article "Planimeter Chart," by R. R. Hill of the Pike, in the February issue of the R-2 Bulletin makes it possible to shorten computations to a considerable extent, where a planimeter is used. Copies of the chart for distribution are available in the R-2 office. If there is sufficient interest in it, a request that it be printed as a standard form may later be made.

- - - - - -

Plans are under way for replacing the present 45 place tabulator in the Section of Forest Measurements with an 80 place machine. This new equipment will permit data to be handled much more effectively and rapidly than with the old type of machine. One of the first jobs on which this machine will be used is the statistical analysis of the Region 1 forest fire records. Gisborne of the Northern Rocky Mountain Forest Experiment Station and Hornsby of the Regional office are coming to Washington to put these records through their paces. It will be possible with the new equipment that is being installed to use one card for each fire instead of the 3 or 4 cards which were used in the California study.

- - - - - -

Director McCarthy of the Central States Forest Experiment Station recently spent several days in the Washington office, taking up various questions regarding the program and other matters of his station. McCarthy reports considerable interest throughout his entire region at this time in erosion problems, particularly those affecting idle or abandoned farm land and the caving of stream banks.

"HIGHEST MOUNTAINS"

In the "Service Bulletin" for March 2 Assistant Regional Forester Merritt of Region 8 very properly and very radically challenges the accuracy of a list of the "Thirteen highest peaks in the U. S. and possessions" purporting to have emanated from the Federal Board of Surveys and Maps.

It would be of interest if Mr. Merritt, an authority on Alaska and an engineer, would give the readers of the Bulletin an opinion regarding two of the peaks mentioned in the Encyclopaedia Brittanica article on Alaska (by George McLane Wood and Col. W. P. Richardson) as being among the highest mountains there: Mt. Wrangell and Mt. Crillon, alleged to be "17,500" and "over 15,000 feet" high, respectively. Should these be substituted in Mr. Merritt's list for Mounts Bear and Alverstone, or do they perchance appear in that list under other names?

Many years ago, when the writer studied geography in school, Mt. Logan, the second highest mountain in North America (even surpassing Orizaba), and then thought to be the highest, was attributed by some to Alaska, but alas later surveys seem to have placed it wholly in Yukon! The writer has seen the elevations of Mt. Whitney given variously from 14,496 to 14,502 feet; if the latter figure should prove correct then Mt. Whitney would nose out Mt. Alverstone and prevent Mr. Merritt's list from being an all-Alaska sweepstakes.

Incidentally, speaking of "the U. S. and Possessions," Mauna Kea, Hawaii, said to be the highest island peak in the world, is not far lacking for qualification in Mr. Merritt's catalogue of oread aristocracy. - Daytonius

CAN IT BE DONE?

The Northern Rocky Mountain Forest Experiment Station is this year beginning a study of past forest fires with the help of the Regional Office. Previous compilations of the year's fire records on sheets A to K and in the Summaries sheets, have not given all of the information that can be obtained from the original reports and that is needed as a basis for current checks on the efficiency of fire control. It may be desirable to transfer the original report data to the punch cards immediately after the close of each season, and these cards could then be sorted and the summaries made by machine rather than by the time-consuming and laborious hand compilation now required. More information with less labor and at less cost is the goal. - H. T. Gisborne

THE EFFECTS OF EROSION, FLOODS AND DEPOSITION UPON INDIANA BOTTOMLANDS OF THE OHIO RIVER

By G. H. Lentz, Southern For. Exp. Sta.

Speaking of farming conditions, drought damage, and damage caused fertile bottomlands through overflows of the Ohio River, Mr. S. Q. Snyder prominent land owner and bank director in Rockport, Indiana, made the following statement.

"Years ago the farmers and owners of alluvial bottomlands in southern Indiana, depended upon the rich silt and muck deposited on their lands during each overflow as a means of fertilizing and enriching their corn lands. Bountiful crops were raised without the use of fertilizer of any kind. But within the last 5 to 10 years conditions have materially changed. The Ohio River no longer deposits a rich silt in times of overflow. A poor stiff clay and in some cases a fine sterile sand has replaced the rich silt deposits. Each overflow over the unlevied lands makes conditions worse and we are face to face with a serious condition. The clays and sands cannot hold the moisture and are hard to work when dry.

For years we received deposits derived from the top soil from eroding farm lands at the headwaters of the Allegheny and Monongahela Rivers. Now, since this erosion has progressed so far, we are receiving deposits derived from the subsoil instead of from the topsoil and we are suffering accordingly."

REGION 8 IN A NEW HOME!

By M. L. Merritt, R. 8

Upon February 6, 1931, the Alaska Regional Office in Juneau moved from their old rented quarters to the new Federal and Territorial Building, where there is available well located and ample office space for the Regional Office and for the units of the Tongass Forest located here. The Alaska Federal and Territorial Building at Juneau is a five-story, brick-faced, fireproof, concrete building, costing approximately $800,000, not including furnishings or the land on which built. Its construction was first authorized in 1910, but the starting of work was delayed from time to time for various causes until the new building was finally started about a year ago and finished this year in February.

The building houses 21 Federal activities and in addition provides office space for the Alaska Territorial Governor, Secretary, Attorney General, Treasurer, Auditor, Commissioner of Education, Highway Engineer, Museum, and for the Territorial Legislature which meets biennially.

The fourth floor of this building is given over entirely to Department of Agriculture activities, with the office of Regional Forester and Ex Officio Commissioner for the Department of Agriculture centrally located so that he is in touch with all Departmental work. The Forest Service has eleven office rooms and a storeroom, which take care of the Regional office force, the local Tongass District Ranger, and two Tongass technical men who are stationed at Juneau doing research work. The building is situated on a hill and from the Forest Service offices there is an unsurpassed view down Gastineau Channel for many miles.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV No.16 Washington, D. C. April 20, 1931

OLDEST NATIONAL FOREST

CELEBRATES FORTIETH ANNIVERSARY

By J. N. Langworthy, Shoshone

On March 30, the Shoshone National Forest in northwestern Wyoming was forty years old. Not only is this the oldest but it is also one of the largest Forests.

The Act of March 3, 1891, authorized the President of the United States to set apart and reserve public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations. By proclamations of March 30, and September 10, 1891, the Yellowstone Park Timber Land Reserve, embracing 1,239,040 acres, was established under this Act.

Additions were made to the original reserve until in 1902 it had grown to such an extent that it was separated into four divisions: the Shoshone, which contained most of the original reserve; the Wind River; Absaroka; and Teton.

The creation of the Shoshone National Forest, or as it was then called, - the Yellowstone Park Timberland Reserve - marked an important step in the history of conservation.

Its proximity to Yellowstone National Park has made recreation an important activity. The many dude ranchers of the Cody county depend upon this Forest for the entertainment of their guests. Its timbered slopes protect the sources of the Shoshone, Greybull, and Clarks Fork of the Yellowstone, which furnish water to ranches of the Big Horn Basin and across the border in Montana. There are about two and one-half billion feet of merchantable timber in the Shoshone Forest, which some day will support a large sawmill and pulpwood industry.

Cody, the capital of the Buffalo Bill country, has from the early days been the center of a great stockraising region, and the mountain ranges of the Shoshone Forest furnish rich pastures during the period when beef and mutton and wool are in the making. The Shoshone furnishes summer range for approximately 11,000 cattle and horses, and 91,000 sheep owned by about 170 resident owners.

On July 1, 1902, Mr. A. A. Anderson, a New York artist who owned a large ranch on the upper Greybull river, was appointed special Forest Superintendent of the Forest Reserves surrounding Yellowstone Park and W. H. Pierce, commonly referred to as "Dad" Pierce, who owned a stock ranch adjoining Mr. Anderson's, was appointed Supervisor of the Shoshone.

Mr. Anderson resigned November 4, 1906. Supervisor Pierce, through his wide acquaintance and personal friendships among the local stockmen, probably did more than anyone else in the introduction of range management and getting the new order started. On January 1, 1907, he left the Service to engage in private business.

Upon the termination of the Pierce administration, Harry W. Thurston took up the duties of Supervisor. The headquarters up to this time had been Wapiti Ranger Station, on the North Fork of the Shoshone river. Wapiti is still a ranger headquarters and is the oldest station in use in the United States. Supervisor Thurston moved the Forest headquarters to Cody, at which point it is still located. On June 1, 1911, Mr. Thurston ceased to be actively connected with the Forest Service and has since been engaged in various business enterprises in Cody.

Raymond W. Allen became Supervisor June 1, 1911, and served until August 1, 1919, when he resigned to accept the position of cashier of the Shoshone National Bank of Cody. He is still with this institution.

Upon Mr. Allen's resignation, Supervisor John W. Lowell was transferred to the Shoshone from the Uncompahgre Forest in southwestern Colorado. He resigned June 15, 1920. Later he accepted the position of Supervisor of the Bitterroot Forest, Montana, where he is at the present time.

Upon Lowell's resignation, Andrew Hutton was moved from the Medicine Bow Forest, and was Supervisor of the Shoshone until 1924 when he transferred to Colorado, and I took the Supervisor's job.

EXPERIMENT STATION DOINGS

Two very interesting reports came to the Editor's desk this morning . One, the Tenth Annual Report of the Southern Forest Experiment Station; the other, Accomplishment Report for the California Region.

Just to give you an idea of the various problems being attacked by our Research men, we offer the following:

SOUTHERN FOREST EXPERIMENT STATION

Fires are of more widespread occurrence in the South than in any other part of the United States; the damage they cause is enormous in the aggregate, although they are generally of the ground or grass fire type, which is not as spectacular, nor as destructive, as the crown fires in the West. A considerable proportion of the forest fires in the South are intentionally set out, one of the principal reasons being to remove the dead grass and to provide easily-attainable green forage for cattle in the spring of the year. Except where fire-protective organizations are attempting to control fires (and this represents, in the aggregate, less than 30 per cent of the forest area of the South), practically nothing is being done to prevent their occurrence or to stop them once they have started The use of fire in this southern region presents a very complicated problem, one important aspect of which involves the use of open range land by non-owners.

In order to find out how much damage fire can cause in young second-growth longleaf stands up to pole size that have been protected from fire for a number of years, two small areas were burned over in the protected, ungrazed area at the branch Station at McNeill, Mississippi. Trees on the two plots were similar as to size and density of stocking, and the ground-cover had neither been grazed nor burned for the previous seven years. One plot was burned under very dry conditions in October 1929 whereas the other fire was set during a damp day in mid-winter, January 1930. The fall fire killed trees as large as seven inches in diameter and wiped out 64 per cent of all the trees on the plot, and seriously injured the remainder. The winter fire killed but 6 per cent of the stand, all of these being in the one and two-inch diameter classes; the remainder were apparently uninjured.

A series of tests to determine the relative value of chemicals as fire extinguishers, spraying the chemicals from back-pumps onto grass fires, was carried out in January 1930. The effectiveness of solutions of sodium acetate, potassium chloride, potassium nitrate, potassium dichromate and a proprietary compound (mixture of sodium and potassium carbonate) was compared with water. The chemicals proved to be little if any more efficient than water, while beating out fire with a pine-top gave the best results of all.

One year after a winter fire had burned over part of a four-year-old slash pine plantation in southern Mississippi, the mortality showed 8 per cent higher where the fire had burned than on a similar unburned area (37.7 per cent contrasted with 29.5 per cent) and the current annual height growth the year following the fire had been cut down more than a foot (average total height 1 year after fire, 12.4 feet on unburned, contrasted with 11.2 feet on the burn).

The profitable use, for timber-growing, of many millions of acres of denuded and partially-stocked cut-over land throughout the South will depend to a great extent on artificial planting.

Due to fire and improper management, most cut-over pine and hardwood lands are at the present time producing but a fraction of their potential timber growth. On many cut-over tracts there remains only a cover of brush, inferior species, and defective trees. Economical methods of artificially reforesting to valuable species of trees must be devised if the bulk of the forest land in the South is to again produce a profitable forest crop. The Station's forestation studies are planned to answer the many questions concerned with forest tree seed and with nursery and planting practices for this region.

A progress report covering the results of French face chipping indicated that French faces on longleaf trees produced 22 per cent more gum than American faces of the same width during the first year of work and 28 per cent more the second year. Another test is slash pine showed that two groups of French face trees yielded, respectively, 23 per cent and 25 per cent more gum than the group of trees with American faces with which they were compared. It was also shown that the yield from a standard French face of four-inch width was greater from large trees than from small ones.

A study of the effect of turpentining on tree growth based on stem analysis from turpentined trees has been under investigation during the past two years. This study indicates a very wide variation in the effect of chipping on height growth, ranging from none to a 50 per cent decrease in growth rate. The method of chipping seemed to have very little effect, except that where two faces were placed on a tree the height growth was cut down considerably more than where only one face was used. The proportion of the tree trunk directly above the face showed a decided decrease in growth. The part of the tree opposite the face was practically unaffected, whereas the shoulders of the face or the bark-bar between two faces often showed an acceleration in growth rate.

The studies thus far have shown that among the factors hastening the rate of erosion of good top soil and which are ruining thousands of acres of good land in Mississippi are the following: Overgrazing, repeated grass and brush fires, use of improper methods of cultivation, absentee ownership, one-crop farming, present system of taxation on standing timber, and improper road drainage.

When soil wash first manifests itself, it takes the form of sheet erosion, through which the whole surface loses a portion of its fertile top soil. If nothing is done to control sheet erosion, it soon develops into the second stage, or shoe-string gully type. The gullies start as small washes down the slope and at first are only a few inches deep.

At this stage, remedial measures such as the building of terraces, sodding the slopes to Bermuda grass, or the building of small brush dams can be easily applied. If no measures are taken to stop the waste, it is not long before gullies merge; the increased volume of water has increased eroding power and deep ravines and chasms may be formed. Our studies show that over 30 per cent of the land areas of three counties in north Mississippi has been ruined by erosion.

The preliminary returns of the 1930 census indicate a decrease in the population in the three most seriously eroded counties in Mississippi during the past 10 years. This means that land values have decreased, farms have been abandoned, and the taxable values reduced.

Although the soil erosion problem in Mississippi is extremely serious, very little is being done about it. No systematic control work has been attempted and the condition of eroding areas is rapidly becoming worse.

The economic study which began last year will provide information as to the trends of timber values, costs of timber growing, returns from forestry, and other controlling factors which will serve as a sound basis for the practice of forestry under the specific conditions found in the southern United States.

CALIFORNIA REGION

This report is illustrated with splendid pictures of various activities. Among the interesting items are:

More than 120 cities and towns, with a population of over three million, depend on the National forests for their water supply and most of the one and three-fourths million hydroelectric horse-power in California originates within the National Forests.

The Service has over 300 free camp grounds along well-traveled routes.

The annual area burned has shown a downward tendency since 1924.

Tree growth has been studied on nearly 30,000 numbered trees, and a standard classification devised to assist the marker in selecting the best for reservation. Studies of tree root competition is illustrated by a very complex system of tree roots from which the soil has been washed by a man with a hose and a big pair of rubber boots.

How far do roots of seed trees influence growth of seedlings? What is the extent of competition between lower vegetation, reserved trees, and tree seedlings? The Station is trying to find the answers. The planting objective in the Sierra pine region is to restock deforested areas with trees of commercial species. Without planting, the areas would degenerate to brush and inferior species. In Southern California, planting research is directed toward the re-vegetation of denuded slopes and to general improvement of watershed cover for the prevention of destructive run-off and erosion. Plants of low inflammability are of first importance and production of lumber is not intended. Conifer planting is confined to recreational areas where esthetic values justify the effort and high cost.

Depreciation of lumber in seasoning, and the effect on marine piling of wood borers are being studied, and the Western Yellow Pine is showing it is yielding good turpentine and rosin, which makes us inclined to say to the Southern States Foresters "watch that California bunch."

There are pictures of forests displaced by brush through "light burning". Western Yellow Pine forests have become brush fields, the cause being, frequent burning followed by erosion through many years,

Over-grazing is also degenerating to grass lands, and there are some remarkable pictures of sheet and gulley erosion. The pictures also show some marvelously thin cattle.

The influence of forest cover on run-off of rain from slopes is studied in the field; instruments for measuring separately the run-off water and eroded soil from each plot, making automatic and simultaneous record on a single chart. The studies indicate that decaying litter on the forest floor is the greatest single agent in controlling percolation of water into the soil on the sample plots. Erosion from litter-covered soils was practically nil,but from bare, burned, soils, from .89 to 10.8 tons per acre.

There is also a picture of the headquarters of the California Forest Experiment Station. It is called "Giannini Hall". It looks to us as though it was made of rare Chinese porcelain of the Ming or Sung dynasties, even though the print of it was glossy, and it is much too nice a building for Junior Foresters, Silviculturists, Pathologists, Ecologists, and Forest Economists - much too "snooty".

The Director of the Southern Station sent no picture of his headquarters, possibly he was afraid of arousing our envy. We do not believe it possible to do thorough, abstract research in magnificent buildings of this kind. - Ed.

CHESTNUTS AND FORESTRY IN JAPAN

By Roy E. Miller, Washington

Japanese and Chinese chestnuts may find it very difficult to adapt themselves to climatic conditions in the United States, according to Professor R. Kent Beattie, of the Office of Forest Pathology, Bureau of Plant Industry, who spoke before the Washington Section of the Society of American Foresters at the Cosmos Club, April 2. The continental climate of the United States is subject nearly everywhere to occasionally low temperatures, considerably below those of insular Japan and southern Korea. Soils here also differ from the volcanic soils of Japan.

The plant explorer brought back large quantities of seed, however, and these will be given thorough trial. The wild chestnut of Japan is inclined to be crooked, but is well adapted to making railroad ties and the short lumber in demand in Japan. There are nearly 100 varieties of grafted chestnut trees, grown and cultivated for the nuts. The bark is equal to the American chestnut bark for tanning purposes. An effort to obtain seed of the famous Cryptomeria tree, c. japonica, the 'redwood of Japan' was unsuccessful, as the Japanese save all the seed for planting the homeland. This tree grows extremely straight and tall. It is also known as the Japan cedar or sugi.

Forestry and love of trees is almost a religion in Japan. The Koreans, on the contrary, destroy practically all trees except those about the royal tombs. And in Japan the best groves of old trees are on the temple grounds and in the forests owned by the imperial family. The priests are, many of them, expert botanists.

Japanese Forest Service activities are thorough. Over 60 per cent of the areas of the islands is in forest, and practically all the forest products are needed by the people. The Japanese Forest Service has divided the islands into six regions, where suitable species of trees are planted and utilized as soon as they are large enough to serve local needs. There are also Ken, or 'state', forests as well as private and imperial forests. Many of the forest products are sold co-operatively, the community marketing associations being developed to a high degree of efficiency.

American foresters are particularly well acquainted with Japanese leaders in forestry through Keio university in the north and other educational institutions.

ADVERTISING PRIMITIVE AREAS

By W. I. Brock, Sequoia

After reading Mr. Kneipp's article on primitive areas in the March 2 issue of the Bulletin I would like to present a few ideas in regard to advertising these areas.

I am very much in favor of keeping these areas just as they are, but I do not believe that the proper kind of advertising would hurt.

There are possibly a great many people throughout the country who would get a great deal of enjoyment out of visiting these areas if they knew how to reach them.

On the other hand, should these areas be advertised through local concerns misleading information might cause a great deal of dissatisfaction among many of the visitors.

But we do want the people who enjoy getting away from civilization and roughing it to know about this high wild country and what the attractions are. The real nature lovers are the ones we want to see, not the ones who like their scenery from the seat of an automobile, or the porch of a hotel.

Just as a suggestion, could not the Service print small leaflets describing the scenic value of these areas and giving directions on how to reach them. These leaflets could be distributed through local Forest officers, postoffices, and all public institutions throughout the country.

YE EDITOR DISCOVERS

During the month of February, 4,311 men were employed for a period of 55,353 man days on the emergency construction program financed from the three million dollar road and trail appropriation. The cost of this employment amounted to $171,306. The total number of men given employment during the month of February paid from all appropriations totaled 7,227 for a period of 79,490 man days, at a total cost of $252,411.

Road equipment in the amount of $1,210,000 has been purchased this winter. The employment resulting from these purchases can not be definitely given at this time, but the indications, from reports received from manufacturers, are that each $15 spent for equipment will provide a man a day's work in one of the industrial centers.

- - - - - - - - -

The spring crop of primitive area recommendations is assuming record breaking proportions. In addition to those areas which already have been approved, there are now in course of consideration by the Branches of the Washington office one proposal from Region 1, twenty-three from Region 2, two from Region 3, and sixteen from Region 5. Within the next few months the system of approved primitive areas will have attained quite impressive proportions, and it shortly will be necessary to prepare some kind of directory, both map and written, to indicate their location and extent.

- - - - - - - - -

Here we are with forestry education by television in the offering. "She's Wild," the Forest Service motion picture film showing cowboys and western cattle ranges in a rodeo, was broadcast during the week of March 16 from Station W3XK, the Jenkins television transmitter near Silver Springs, Maryland. This proved especially popular with television fans, judging from letters received at the Jenkins' laboratory. The film went through particularly well because it has large images, photographic contrast, and plenty of movement, three essential requirements of motion pictures that are to be "sliced" for radiovision broadcasts, according to radio broadcast engineers. The motion picture was broadcast in half tone direct from the film, on a wave length of 145 meters and could be seen as far west as Minnesota, Kansas, and Missouri. The reception was reported very good in Ohio and Michigan. The Department of Agriculture has been putting motion pictures on the air through the cooperation of the Jenkins television station weekly since March 9.

- - - - - - - -

The design for the Theodore Roosevelt Memorial to be erected at Marias Pass on the Continental Divide in Montana was given final approval by The Commission of Fine Arts at its meeting on March 19. This Memorial is to be a granite obelisk about 60 feet high, 23 feet at the base, and 4 feet square at the cap.

The original act authorizing this Memorial (approved June 2, 1930) specified that erection of "a suitable archway spanning the Theodore Roosevelt International Highway on the continental divide at the summit of the Rocky Mountains on the boundary between the Lewis and Clark National Forest and the Flathead National Forest in Montana in commemoration of the leadership of Theodore Roosevelt in preserving the forest resources of the United States." This act, however, was amended February 16, 1931, changing the word "archway" to read "memorial." Twenty five thousand dollars has been appropriated for the erection of this Memorial, and bids are expected to be called for shortly.

- - - - - - - -

For several years sheep ranges in the vicinity of Molas Lake on the San Juan National Forest have been infested with grasshoppers. An application has been received by the Supervisor for a permit to graze 500 turkeys on that area during the summer of 1931, and the Regional Forester has requested authority to allow this use free of charge under Regulation G-10, since it is believed that such grazing will rid the range of the grasshopper pest and therefore serve a public interest. The Acting Forester has granted authority to allow the free grazing of 500 turkeys from July 1 to September 15 as an experiment in the control of the grasshopper infestation. So far as we are aware this is the first application that has ever been received for a permit to graze turkeys on National Forest range.

- - - - - - - -

More than usual difficulty is being experienced in the purchase of trucks. In one large purchase, in which four Regions were involved, a long test run ending with a 20 per cent climb on a famous hill in Region 6 was required in order to determine which of the trucks offered to the Government met the specifications and the requirements of Forest Service work. Truck manufacturers, as well as road machinery manufacturers, are eager for business, and a tryout under controlled conditions will probably become an annual affair incident to the purchase of trucks needed on the National Forests.

- - - - - - - -

The Auto Court Guide issued by the Outing Bureau of the Automobile Club of California contains a specific description of 230 improved National Forest campgrounds in California. The list is revised annually by Lou Barrett and thus furnishes current information to motorists. The ready availability of this information probably prevents scores of tourists from spot camping in areas of high fire hazard and thus saves them, as well as Forest Officers, a lot of grief and regrets. The Guide, by a series of foot-note slogans, also lays emphatic stress upon the need for care with fire, snipes, etc.

- - - - - - - -

Offices of the American Game Association have been moved from the Woolworth Building, New York City, to the Investment Building, Washington, D. C.

AN INCIDENT WHERE A MESSENGER CARRIED OUT MR. PINCHOT'S ORDERS

By Joe Santucci, Washington

It was during the Roosevelt administration when Mr. Garfield was Secretary of the Interior.

One evening I, being the messenger who was stationed on the 7th floor until five o'clock, got strict orders from Mr. Pinchot that he was not to be disturbed under any consideration. Well around near five o'clock who should step out of the elevator but Mr. Garfield, an old pal of Roosevelt and Pinchot. The messenger didn't know Mr. Garfield, and this is what happened:

Garfield started towards Mr. Pinchot's office and the messenger asked him who he wanted to see. Mr. Garfield replied "I am going to see Mr. Pinchot", the messenger said "No you are not, Mr. Pinchot does not want to be disturbed, and besides it is after office hours". Mr Garfield paid no attention to him and kept going, then the messenger stopped him and said, "If you go any further I'll throw you out of the building". Mr. Pinchot hearing Mr. Garfield's voice came out of his office, and prevented the messenger from carrying out his threat, by telling him who the man was he was going to throw out of the building. Mr. Garfield took the incident good naturedly, but the messenger nearly collapsed. Mr. Garfield then complimented Mr. Pinchot on having a messenger who carried out his orders. This messenger always remembered Mr. Garfield and regardless of time or orders gave him the right of way. And I want to say that Mr. Garfield overlooked the incident entirely and always spoke kindly to this messenger whenever he came in contact with him.

MORE "MEMORIES"

Friend Steer:-

Want to thank you for your piece in the Service Bulletin (Feb. 23) which I enjoyed very much; also for the picture of the old tub. Spent an interesting half hour with the wife and kids telling them about our trip, explaining the different names you mentioned etc. etc. I had forgotten about the program but have a faint recollection of someone asking me about doing a tap dance for it. Wasn't able to attend on account of "Mal Du Mer".

I too would like to see the Service do something about a permanent record of the "10th". Also would like to have some of the boys say "hello" to the rest of us through the pages of the Service Bulletin or kindred publications.

I remember you quite well at Washington, D. C., Vanvey Villa, La Duc and Brest. Don't suppose you remember me, the little short guy who was chambermaid for all the horses in the camp out of Vanvey near Rochefort.

Very sincerely yours,

Private, H. R. (Micky) Elliott
(Malheur)

SERVICE BULLETIN
CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV, No. 17 Washington, D. C. April 27, 1931

WHAT PRICE - PAPER WORK?

By A. C. Adams, Bitterroot

In the bygone Mississippi River days, the old, smoke belching stern-wheelers used to announce their approach to the various landings with stentorian blasts from their whistles, so that all who heard might run. The louder the whistle the more folks heard. One steamboat had an extra large whistle built into it; but alas, too large, for every time the whistle sent out a long blast it took all of the steam in the boiler and the boat had to tie up until more steam was generated before she could be gotten under way again.

This story may have been only one of Mark Twain's fancies, but in reviewing our ever increasing volume of paper work, the thought comes that we, too, must some time "tie up" for long periods to dispose of our reports and statistics before we can cut loose again and continue on our journey to the Land of Productive Work. A list of the regular reports and records that come up for compilation is imposing in itself and interspersed among these are the unexpected reports that call for attention. That some of these data are necessary cannot be gainsaid. We need records that are immediate and accurate and we should do our utmost to supply them, but it would seem that there could be a Service-wide coordination of requests for reports and records that would reduce the number and volume; a coordination that would make one report serve where two are needed now and with a corresponding simplification that would reduce the time of preparation.

We are simplifying our firemen's outfits and reducing their weight and cost. We are working over our larger fire units and preparing them for quicker action. Our trail and other equipment units are likewise being scrutinized and realigned with the endeavor to convert inactive equipment dollars into active fire control performance.

Numerous other cases will appear to mind where idle dollars have been placed in front line trenches of performance, but the foregoing examples will suffice. Recently proposed boundary adjustments among certain Forests will undoubtedly release many paper work dollars, that may function more usefully in furthering our aims. How many more are tied up in paper work, which, if diverted, could perform active and productive administration in the field?

WE, TOO, HAVE ACCOMPLISHED

By Frank Haynie, Supply Depot

We read in the Service Bulletin about certain accomplishments of the different Branches. SDO has not tooted its horn much in the past but here is a little something you might put in your pipe and smoke.

(a) A few years ago we shipped most of Miss Randal's stock to Oregon and began filling all requisitions for R-7 Forests and eastern Experiment Stations without adding to our SDO forces.

(b) Many new Eastern units have been established including the R-9 RO and new Forests, with no increase in SDO force.

(c) The business of all Experiment Stations has materially increased - no increase in SDO force.

(d) On July 1, 1929, the financial policy of SDO was changed, increasing the volume of our work at least 40 per cent - no increase in SDO force.

(e) The SDO business for the first 8 months in Fiscal Year 1931 shows good increase in all departments over same period fiscal year 1930. No increase as yet in SDO force.

(f) We made the SDO location study - a big job - no outside help.

Now you may say that up to three or four years ago SDO had too little to do, but, be that as it may, I am here to tell you that we have been able to take on the additional work indicated above only through putting on more steam all along the line, and that goes for everybody in SDO. Just how much more we can do without yelling for help I don't know but we haven't yelled very hard yet.

You may be interested in a comparison of the figures for the eight months last fiscal year and this.

	F. Y. 1930 To 2/23/30	F. Y. 1931 To 2/23/31	Per cent of Increase
Supplies shipped from Ogden Stock	$34,874	$48,120	38%
Forms	6,877	7,212	5%
Printing	2,932	3,141	7%
Rubber stamps	457	900	97%
Repairs	846	1,082	28%
Direct shipments	16,199	77,320	377%

The direct shipment business does not include wire orders just placed or a lot of tentage not yet delivered.

We can not explain why the fiscal year 1931 business is running so far ahead of 1930. The requisitions just keep coming, that's all.

I said a couple of years ago that I welcomed the financial change in our policy because it gave us something new to think about. It did that all right and we hadn't begun to grow stale under the new procedure before the Government Island proposition came up. It promises to keep us busy for a long time to come.

A NATIONAL LAND POLICY

With no more virgin land, with forests denuded, with fertility threatened, and in many sections erosion a serious factor, it is time that our nation adopted a constructive land policy, with an intelligent classification of land. The forestry, conservation, mineral, grazing, recreational, and agricultural values of land must be considered. In view of growing population and congestion, recreational values have a new place. Forestry means more than growing of timber. It means conservation of rainfall, wild life, and a check to drought and flood. From forty to eighty million acres of marginal land should be repurchased by the Government and should go back into forestry or grazing.

The problems of land tenure demand consideration. We can not go back to the Hebrew policy of a year of jubilee. We dare not develop in the United States, as in some other nations, a landed and landless class. The dangers of corporation farming are becoming apparent. Any agricultural system that destroys community values - that eliminates schools and churches, and makes of the area a social desert, useful only in cheap production of food - is a system un-American and destructive. We must not forget that American agriculture is more than a method of making dividends on an investment. It is a way of life, and when we destroy our American type of rural civilization, we turn agriculture into an inferior imitation of industrial life, Rural statesmanship should not longer neglect the problems underlying a sound land policy.

It is unfortunate that forestry, public lands, irrigation and reclamation, conservation, water rights, enforcement of migratory bird act, fisheries, national parks, game propagation, and kindred problems are located in various bureaus, departments and branches of government. The time has come when these important interests should be regrouped in one bureau and head, in the Department of Agriculture. If the birthright of the children of tomorrow is to be protected, if parks and play grounds are to render their full service. if the interests of the sportsmen, the interests of the lover of wild life, as well as the interests of agriculture, are to be protected, departmental reorganization is needed. This bureau should be under the leadership of an assistant secretary of Agriculture, interested in the great outdoors and informed on conservation problems. - From an address by Louis J. Taber, Master of the National Grange.

"THAT 1930 RECORD"

By E. W. LOVERIDGE, Washington

In an article in the Service Bulletin of January 12 Director Forbes of the Allegheny Experiment Station asked Operation to explain why the statistics given by the Forester in the Bulletin of December 8 show "damage per acre, about 2 to 4 times as great in previous years as in 1930". He also asked if we have "learned to shunt our fires out of the good timber into worthless brush or in our appraisal of damage to burned land have we been overzealous in recognizing the probable recent depreciation in forage and stumpage values"?

Without going into too much detail the answer is that the fire report for 1930, which has just been compiled, shows that the damage of $2.53 per burned over acre of net National Forest lands is about average and not as low as in 1927 or 1928 with an average loss per acre of $1.49.

The loss in dollars per M. feet B.M. burned was the highest on record for the past five or six years.

The loss in M. feet B.M. per burned-over acre, although similar to the figure for

1927, was the lowest in years. This is probably due to the fact that almost half of the area burned on the National Forests in 1930 was in the East where damage due to ground fires does not run high, according to the appraisal methods now in use. Notice that no reference is made there to Forbes' statement about "worthless brush".

This "explanation" by request is not a comment on present methods of making fire damage appraisals. It is primarily a statement based on the final report instead of on the incomplete 10 day reports which necessarily often give pretty wild damage estimates. More studies in methods of determining fire losses are needed, especially in the East, and if the Allegheny Station is to undertake an investigation of this nature we shall be greatly interested in their progress reports.

PAPER CONSUMPTION IN 1929

By R. V. Reynolds, Washington

The increase of paper consumption in the United States in 1929 was in line with that of normal years for the past four decades. According to the preliminary figures, it reached the unprecedented total of 13,301,000 tons, or 219 pounds per capita. The following contrast shows the advance of paper consumption in all classes.

Class	(Thousand tons)		
	1927	1928	1929
Newsprint	3,492	3,561	3,813
Book	1,265	1,321	1,471
Boards	3,737	4,009	4,398
Wrapping	1,515	1,457	1,586
Fine	502	538	572
All other	1,404	1,562	1,461
Total	11,915	12,448	13,301
Pounds per capita	202	208	219

1929	Pulpwood Cords	Wood Pulp Tons	Paper Tons
Production	(6,086,678)	4,770,600	11,090,543
Imports	1,350,722	1,887,505	2,554,709
Exports	(negligible)	54,068	366,205
Consumption	7,437,400	(6,245,349)	(13,301,000)

All of these items, except the imports of pulpwood, show increases. Pulpwood imports decreased by 195,616 cords. The imports from Russia were 6,481 cords received in 2 cargoes, one in New York and one in Maryland. Quantities in parentheses are estimates.

A RIVER OREGON

By E. N. Munns, Washington

Some time ago, the derivation of the name Oregon from "a river of that name" was disputed, and argument presented to show that it was derived from local language.

Unfortunately for those who hold to the latter view, history does not support them. The first mention of Oregon appears in John Carver's travels, published in 1778. Carver was quite an explorer after a fashion, and a man of considerable imagination. He traveled through what is now the Lake States region, probably got into the Plains region, and may have reached the Bad Lands. He states "From the intelligence I gained from the Naudowessie Indians, among whom I arrived on the 7th of December, and whose language I perfectly acquired during a residence of 7 months; and also from the accounts I afterwards obtained from the Assinipoils . . . .and from the Killistonoes who speak the Chipeway language ...... I have learned that the four most capital rivers on the continent of North America, viz., the St. Lawrence, the Mississippi, the River Bourbon, and the Oregon or the River of the West, have their sources in the same neighborhood." And on Carver's map appear the two alternative names, "River of the West" and "Oregon" for the Columbia. The word "Oregon" apparently therefore, is of Indian origin and related to a river's name, and is probably a corruption of a Chippewa word or phrase.

The first American writer, after Carver, to make use of the name Oregon, seems to have been the poet Bryant in 1817. Apparently he was fired with the exploration enthusiasm which then gripped the country, for in his Thanatopsis he made the word immortal. Bryant's writing reads "Where rolls the Oregon."

The adoption of the name to the territory drained by the "River Oregon" is ascribed to Hall J. Kelley. Previous to the publication of his "History," the name of the region was known as the "Northwest Territory," "Columbia River" or "River Oregon" Region. In his work he "called the region Oregon, after the name of the river." Kelley tried to discover the origin of the name and developed a fanciful idea. "Oregon, the Indian name of this river, was traced by me to a large river called Orjon in Chinese Tartary whose latitude corresponds with that of the Oregon in America." In another place he states that "I had previously supposed the word Orejon to be of Portugese derivation - Orejon a fort." However, as the Portugese were not an important factor in early explorations in this region and as the Russians had previous to Cook, given a Russian name to the River, this derivation was far-fetched.

Cook's map made on his epoch-marking voyage, shows the River Oregon as a part of the River of the West. On a map by John Payne, New York, 1799, the River of the West is shown and also, at its head, "Oregon R."

Thus there was a "River Oregon." Gray gave the River of the West the name "Columbia," after his ship and this name, being shorter and more euphonious, was adopted. "Oregon River" disappeared with it. It is small wonder that present-day residents cannot find the Oregon River after which the State was named.

A LETTER FROM A FIFTEEN YEAR OLD BOY

"Dear Sirs:

"I am a lad of fifteen and lately I have become very much interested in pine trees. I have been reading a "National Geographic" magazine after my lessons today which had an article in it about pines in Louisiana, 'slash' or some similar name, particularly are grown there. My father owns 140 acres of land here in Thomas County, half or more reserved for hunting and pasture, but there is one thing I don't like about it. That is, most of our pines are of the black pine variety, commonly called 'shortleaf.' Some pastures around here look good to me with this exception, they are high, yellow or longleaf pines, but the farmers here believe in having their trees chipped for turpentine. In my mind this stops a tree's growth and makes it easy to fall the first real storm that comes by. I would appreciate all the knowledge you are able to give me on these subjects. (1) Results of having your trees chipped; (2) all varieties of pines, and which is best to grow here in the very southern part of Georgia, (15 miles north of Thomasville, a winter resort) and which varieties are most valuable no matter what part of the United States, especially right here in South Georgia; (3) and when to plant the ones you advise to plant here, how far apart, what sort of soil, how to care for them, and it would also interest me to know how to judge how old different kinds of pines are while standing, by that I mean just saplings, how mush they grow a year and the like, in fact a book of your own makeup on 'preserving our trees' in general.

"This all may sound silly to you, but you must keep in mind that I am still a boy and have boyish ideas. My ambition for future life is to get in with the United States Mail Service, a rural carrier here and in my vacation and leisure care for trees, have one hundred and fifty acres of nice pine trees. Of course I would like to learn how, and plant pines as soon as possible, because a year or two seems to me would make quite a bit of difference. My idea is to plant and care for them now because fifty or sixty years from now they will bring me a good price enough to enjoy and give away money in my old age. In other words, trees are as cheap and secure a kind of insurance as a person may have, and besides so much of our pines are being sawed up now and being used that fifty or sixty years from now ten or twenty thousand pines will be worth having here in the wasteful - that is, disregarding the future need of timber - United States.

"Perhaps you could afford to send some seed, which I would be glad to have, or at least tell me reliable companies I could order some seed of the variety of pine you say would grow fastest and best here.

"Looking eagerly forward to your reply to me right soon I am, with appreciation to your looking after this."

YE EDITOR DISCOVERS

National Forest receipts from July 1, 1930, to March 31, 1931, were $3,242,012.61, which is $1,164,969.03 less than the amount for the corresponding period in the previous fiscal year. This loss, which was almost entirely in timber receipts, is undoubtedly the result of the general financial depression throughout the country. All Regions reported decreases, the amounts for each being as follows:

Region 1	$90,942.30	Region 5	$281,081.97
" 2	28,225.36	" 6	317,892.17
" 3	143,454.48	" 7	239,501.86
" 4	17,902.14	" 8	25,124.33
Region 9	$20,844.42		

- - - - - - - -

The conditional award made to the Trans-Mississippi Development Company, a subsidiary of the International Paper Company, covering the purchase of the pulpwood and other timber from two large tracts on the Rio Grande and San Juan National Forests has been allowed to lapse. Under this conditional award, the awardee was required to sign a formal agreement and furnish a financial statement and comprehensive plan of work by April 1,

1931. Although considerable investigative work had been done on this project by the company, the Forest Service felt that the terms of the conditional award had not been fulfilled. Also the company was unwilling to sign the formal agreement at this time and requested that, because of the present financial depression, a postponement in the accomplishment of the agreement be granted them by the Forest Service. However, the Forest Service allowed the conditional award to lapse.

The timber can now be purchased at private sale at the high price bid by any one who can meet the conditions of sale. The progress made in this new development of pulp and paper making in the Rocky Mountain Region has been followed with a great deal of interest, and there is thought to be little question that this industry would have been established at this time had it not been for the very general financial depression. This industry, when it does become established, will mean much to the Forests in the Rocky Mountain Region, since it will open up an entirely new market for Engelmann spruce and the true firs.

- - - - - - - -

William R. Barbour, who for the past several months has been in charge of forestry extension in the Virgin Islands, has been appointed Supervisor of the Luquillo National Forest in Porto Rico, effective June 1. He will also serve as insular forester for the local Government and will continue to supervise forestry work in the Virgin Islands. William P. Kramer, whom he succeeds, will return to the mainland and will become Assistant Supervisor of the Pisgah. Mr. Barbour, who was formerly with the Forest Service in Region 7, has been employed in tropical forestry in the Caribbean region for several years.

FAVORABLE DECISION IN FISH CREEK DESERT CONTROVERSY

Within the Umpqua Forest and on the headwaters of the Umpqua River lies the so-called Fish Creek Desert. The elevation is high, the soil contains a high percentage of pumice and has been found by soil tests to have little crop productive value, the area is remote from towns and snowbound during the winter. Originally it was heavily timbered but old burns have left many grassy openings with only a sprinkling of trees.

Several years ago a Spanish War veteran named Davis and a World War veteran named Best decided to locate claims in the area, which had been classified as non-listable after very careful study. Their applications for reclassification having been refused, they went in anyway and eventually induced a half dozen others to squat in trespass and built cabins. Lengthy legal proceedings ensued, Davis and Best spent several months in jail and were released upon their solemn promises to refrain from further trespass. The other squatters drifted away.

On March 9 and 11 last, Davis, Best, and ten others appeared before the Register at Roseburg, Oregon, and demanded to file on the controverted lands. The situation was explained to them by the Register, and by the U. S. Attorney, nevertheless they persisted. The Register wired Washington for instructions and was directed to receive the filings and then immediately reject them; thus bringing the matter before the Commissioner of the General Land Office and the Secretary of the Interior. This procedure was followed and by the Commissioner's letter of April 10, approved by the Assistant Secretary of the Interior, all twelve filings were rejected. The next step in this drama is awaited by the local Forest officers with interest, as Davis and Best repeatedly have asserted their intention to resist further removal from the area by force and to come out only on stretchers.

L. F. Kneipp.

SUNLIGHT AND FOREST GROWTH

All green plants require sunlight to carry on the process of photosynthesis, - the manufacture of sugars and starches from carbon dioxide and water. Plants in temperate regions which grow in open fields and meadows commonly get an abundance of sunlight, but in the forest competition for light is most keen. A plant must either get above its neighbors or submit to gradual starvation from lack of sufficient light.

Foresters are particularly anxious to get a new crop of trees started before the old crop is completely removed. A common method is to cut "selectively", removing only a part of the stand and in this way increase the light on the forest floor to a point where it is favorable for young tree growth. Just how much light is needed has long been a controversial question. To get information on this question, light measurements were made on fifty sample plots in a virgin Norway pine stand on the Chippewa National Forest. The age, density and height of the young trees growing on these plots were determined. The study shows that the density, height, and thrift of the young growth very definitely increase with the amount of sunlight available. The average yearly height growth for trees 10 to 20 years of age and up to eight feet in height was negligible where the light was below 5 per cent of normal sunlight; at 20 per cent, it averaged about 0.1 feet per year; at 40 per cent, 0.2; and at 80, about 0.35.

Where sunlight is abundant, there is less competition from roots for soil moisture and nutrients. Hence light is not alone responsible for the increased growth observed in small openings, but it does serve as a fairly reliable index of the growth possibilities. - Lake States For. Exp. Sta. Technical Note.

WEATHER 100 YEARS AGO IN SOUTHERN NEW YORK AND NORTHWESTERN PENNSYLVANIA

By H. F. Morey, Allegheny For. Exp. Sta.

According to the late Henry Baxter, who was the first lumber operator at Heart's Content, the winter of 1830-31 was very mild. He said in the Warren (Pa.) mail, October 13, 1885, that: "The Winter of 1830-31 was so mild and there was so much rain, that the mills at Millgrove could not run at all, owing to the back water on the flutter wheels. Neither could Warner run his mill any at the mouth of the Oswayo. It was a deadsetter on the river mills."

"------The season continued open until the 19th of Nov. 1831, when it began to snow on the dry unfrozen ground, and snowed more or less every day for forty successive days. In Feb. 1832 occured the "great thaw", by which the river was raised higher than it was ever known to rise before, and still there was so much snow left on the ground that there was good sleighing until spring. After the thaw the snow was still very deep, and the surface was covered with a thickness of ice sufficient to hold up a boy (or man) and sled anywhere, and they could run down hill over the stumps and fences on the snow without any interruption. Such is my recollection of the two winters 1830-31 and 1831-32".

CORRECTION

We let an error slip by in the April 13 number. It was under "Ye Editor Discovers," but was discovered by the Big Boss. We said that Yellow poplar in 1923 had a growth of 31,292 board feet per acre, and in 1930, 25,892, and we called this an annual growth. Of course you knew, didn't you, that it should have been 35,892? But did we get panned?

We have also discovered that the printer left Fred Morrell's name off the National Forest acreage item on page 3. These errors were doubtless due to the devastating approach of the opening date of the baseball season. - Ed.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 18, Washington, D. C. May 4,1931

TWENTY FIVE YEARS OF SERVICE

By J. J. Lowell, San Isabel

During the spring of 1904, Judge E. H. Long of the Department of Justice, Washington, D. C., came into the Pagosa Springs country and organized a party to scale stumps and estimate the timber cut on Government land by the different sawmill operators. From that time, until April 1, 1906, when I was appointed assistant Ranger to take charge of the Dolores District of the Montezuma Forest Reserve, I worked with that Department.

In the summer of 1905, John Hatton came to Pagosa Springs and held a Ranger's examination. I obtained leave for a few days from Mr. Long and took this examination, but, as I had been slow in getting in my application, my card was late; so the examination had been going on for about two days before I could enter. After I got my card, Mr. Hatton proposed that we hold a night session. We did, and the result was that I caught up with the rest at the end of the third day. Along about December of that same year, while in Durango with Judge Long helping to get his season's work in shape, I received notice of my grade in the examination. Well, at least, I made a passing grade.

About the middle of March, I got my appointment as Assistant Ranger on the Montezuma Forest at $900 per annum. Along about this time H. N. Wheeler drifted into Durango as Supervisor and, of course, we fell in together as we were the first to be appointed on this Forest.

It was about April 5, 1906 - having my horses and saddles ready and having been supplied with a Forest map and Use Book - that I set out across the country to take charge of the Dolores part of the Montezuma Forest. I never will forget the reception I got when I landed in Dolores. I rode into a livery stable and put up my broncs, then took my Forest map and Use Book and went over to the Dolores hotel. By that time the news had spread throughout the town, for when I entered the lobby I met about twenty-five old Texas cowmen. This was about 4:30 p.m., and they started asking me questions regarding what I was going to do to them.

The first thing I did was to spread my map on the table and get out the Use Book. By the time I got through explaining things to them, it was 11 p.m. and they had all promised to cooperate with me and show me all the section corners which they knew. They were also willing to take out their grazing applications. It seemed they couldn't wait for the time to come when they could go with me and show me everything; and their horses, cow camp, grub, and beds were mine. I might add that during my stay on the Montezuma, I never associated with a better lot of men. During this time, we, of course, had our ups and downs and sometimes more downs than ups, but I always seemed to come out on top, even if things did look rather critical at times.

One summer, while Inspector W. T. Cox, from Washington, D. C., was on my district, we started from Dolores early in the day and were going through the Lone Masy, Disappointment, and Lone Cone country to Ophir Loop. As we were in a hurry we were riding pretty fast. We were going through the Disappointment country when we heard several shots on a bluff just west of us. Zip, something dug up the grass very close to us! I had an old 45 Colt and Cox had a better one, so we stopped and dropped off on the other sides of our horses. Cox made the remark, "The next shot is ours," but no more came; so we galloped on and went over the Ute trail and landed in Ophir Loop about 9 p.m. The next day we met Supervisor Wheeler in Silverton and went on to Durango.

A remark that Mr. Cox made that night at Ophir Loop has never been forgotten and has been a help to me during my many years of service. I was asking Mr. Cox about the Use Book and he answered me thus, "Jim, the Use Book is a good guide, but if you haven't a head of your own, you are not worth a d--- to the Forest Service." How true it has been! I have never forgotten that remark.

Another thing which may be of interest happened that same summer when Supervisor Wheeler and myself were in the Ute mountain country on some boundary work. While we were there we took a trip across the San Juan River to Four Corners. We hired a Navajo Indian to take us across the river in a flat boat, and we got across pretty well, but on the way back the river had risen and the Indian, thinking we were tenderfeet, got smart and nearly turned us over. I remember Mr. Wheeler drew his gun on the Indian and he landed us, all wet, on a sand bar, and the boat was full of water. It would be hard to tell which got the worst of it, - the Indian or the rest of us.

The big job on the Dolores District was to get a count on all the cattle. So I went about to work out some plan for doing this. It was finally worked out by getting the State to build a wagon bridge across the Dolores River about twenty-five miles down stream from the town of Dolores. I remember some of the cowmen were sure disappointed when the count was made.

Another experience I remember very well, and I am sure Ress Philips will remember this also. Ress, while Supervisor on the Montezuma, and I, as Grazing Ranger with no particular District, were on the west side of the Dolores River about fifty miles from the town of Dolores, locating new Forest areas. Leaving our camp on the river and taking along only our dinners, as we were expecting to make a cow camp by that night, we were dismayed when we failed to reach our destination and discovered we were lost. The next morning, after having fixed ourselves as best we could for the night, we found that Ress' horse was gone. We hunted all that day and had to stay out again that night. The third morning out we decided to try to make it back to our camp on the river. We put both saddles on my horse and pulled out - tired, hungry, and cross. This didn't work well, so Ress cached his saddle and we would ride and tie, thinking this a much better plan. We had gone only about fifteen miles when we ran across a cowman who told us of his cow camp about five miles to the west. There we could get an extra horse and some eats. When we got there we found that the eats consisted of some flour, flavored with mice, and some sow-belly which had turned yellow with age. Well we fried our pork and I made bread with the flour, without either soda or baking powder, and we were so darn hungry I remember enjoying my meal. The horse, we found, was stifled. After eating and resting a while Ress rode my horse back to get his saddle, and the following day we pulled out for our camp on the river. Ress offered ten dollars reward for his lost horse, and about six months later the horse was found in Utah and brought in by some cowboys.

I drifted along, having many such experiences, until the spring of 1910, when I was transferred to the San Isabel to take charge of the Hard-scrabble District at Greenwood. This district had had six other Rangers before my time, and it has been somewhat of a hard fight to hold my own in many ways, but I have made some headway and feel I have a better standing with the general public than when I started. One thing I always try to do is to meet the other fellow half way. That is, I always aim to play a square game.

Now, while I am not the oldest in the Service, there are not many left of the old-timers, and we will have to admit that we will soon have to get out and give room to the younger and better qualified men. However; we old-timers can be brave and keep in the collar as long as possible, always trying to put things where the next fellow can take them up a little easier, or at least be more sure of his ground. While I am writing this, I feel a little sad to think that soon I'll be moved aside from a Service I love, and I surely will miss the cooperation of the finest men on earth.

Before I bring my article to a close, I would like to pay my respects to a remark made by Fred Morrell, who was on my district the summer of 1918. We were riding together for about a week, and while riding one day on the High Line Trail, Mr. Morrell remarked, "I used to think, Jim, when I first entered the Forest Service that I knew it all, but I am learning each day that the other fellow may know something too."

That is my position now, as I am getting ready to lay off the collar. I feel like I know very little compared to what might be known in the years to come. The only thing I can say in closing is, that I thank the kind Providence that led me to cast my lot with the Forest Service and I am always thankful for the opportunity of meeting the splendid people who are connected with this work.

WHEN WILL IT END?

By J. G. Clouston, Umatilla

In the March 23 Bulletin, Clayton and Lowell bring the subject of "uniforms" up again, and the editor wonders when it will cease. Many of us haven't said anything - yet - but most of us have an opinion. I have been moved by all I have heard and read about uniforms to set down my opinion, for what it may be worth.

Most of the objections to the uniform as it is seem to be due to the fact, imagined or actual, that when, "in uniform," we are mistaken for taxi drivers, police, hotel porters, army officers or what have you. Well, why shouldn't we be? Some of us wear serge, some whipcord, some worsted, and a few gaberdine, and most of us no uniform at all. The shoes worn are black or tan, high or low, as suits the individual fancy of the wearer. With equal frequency, we see breeches and long trousers. Some of the pants are cuffless, and some are not. Plaits, pockets and linings are, to say the least, not "uniform." Once, a long time ago, I saw a uniform overcoat. Just once. And the head covering - Oh! I don't hesitate to say that I have seen Forest Officers otherwise in uniform wearing every kind of head piece made, including straw, with the exception of toppers and derbys. No, I haven't seen any F.O. in a bowler yet, but I wouldn't be surprised if I did.

Most of us males are rather silly about the hats we wear. We think we look well in a certain style of hat and continue to buy that style in spite of protests from our wives. I rather think that it is mostly a matter of comfortable fit. In 1918 a lot of us assumed new styles in head gear, and if memory serves me right those enforced styles received a deal of comment, mostly adverse. Yet, did you ever see a man look otherwise than well in an overseas cap or the Navy white hat? Not if it was properly fitted and correctly worn. Someone has said that the hat is the most important part of the uniform. I'll string along with him.

Another objection to uniforms for Forest Officers is the fact that an office uniform is not suitable on the fire line or for a cruising job. Granted. What then, shall be done?

First answer the question once and for all, "Are we or are we not going to be a uniformed Service?" If the answer is yes - and there are a lot of us who are not sure that it should be - prescribe a uniform within very narrow limits. If possible leave no optional features, especially as to the hat, and include shoes, shirts, ties, and overcoats. Finally require the wearing of it by all appointed officers at such times and places as the nature of the work and the public contacts indicate as suitable.

All this has been said before by others, both publicly and privately, but repetition won't weaken it. In spite of facetious comment and description, there is a lot of serious opinion throughout the Service regarding uniforms. Until something definite is done the editor may rest assured that the controversy will not cease.

PUBLIC RELATIONS IN ARKANSAS

From a report by J. M. Wait, F.F.P. Lecturer, on the Ouachita-Ozark Project.

In summing up our project activities of the period, basing the summary on manifestations of interest, responses of audiences, and their general attitude toward our Public Relation activities as they assemble and disperse where programs are held, I certainly feel optimistic as to the results being obtained.

In my opinion the success of our Public Relations work, especially on the Arkansas Forests, can best be judged by its effectiveness in overcoming, or rather breaking down, the very obstinate and long-standing opposition and antagonism on the part of the general public toward Service policies. Those of us who went through the smoke and flame of the fires on the Arkansas Forests in 1910-11, when practically the entire area of the National Forests in the State burned over, and who at that time, no matter in what direction they might proceed, on every hand heard themselves and the Service denounced and even threatened with violence; whose request for a meal or lodging frequently met with a curt refusal, cannot easily forget the antagonism and opposition then encountered in Forest Service work. Those were the days of real fire history. The attitude of the general public at this time is quite different indeed. To me the change during the past five years has been very apparent. A few illustrations might be mentioned.

At the time of my first trip to Reform on the Ouachita, the antagonism of the audience was very apparent. On my next visit it did not seem to have subsided very much. This second program was being held on the outside of the school building with the screen on the wall and the audience assembled in a semi-circle, occupying seats which had been removed from the building. While I was making my talk a man in the audience was heard to remark "Somebody'll take a plug at him with a rock if he dont watch out." Of course the remark was made for my benefit and I fully realized its import, but ignored it. On my next trip everyone was more friendly; and on my next trip to Reform, which was November 13, 1928, a cooperative organization of 22 citizens was signed up to fight fire free within certain limits. My last visit to Reform was on July 19, 1930. My audience at that time seemed as friendly as any I have ever had.

I have in mind a similar case on the Ozark, the Howard School House neighborhood. This settlement extends for a considerable distance along the south boundary of the Central Division; and not far away, in a northerly direction, is the Waldo Mountain, the south slope of which for years has been the favorite cattle range of this settlement. Formerly this area was one of frequent outbreaks of incendiarism. There had always been an attitude of resentment on the part of the settlers toward the Service policy of Fire Prevention.

I have observed closely the trend of sentiment in this settlement. My first appearance there drew a rather small crowd. Indifference on the part of individuals attending was very apparent. The program brought no response at the time. The second program elicited quite a few comments and expressions of appreciation. Recently I again presented our program at The Howard School House. At this time I anticipated no greater crowd than was in attendance on my last appearance there, when the crowd, while much larger than on other occasions, could all find either standing or sitting room within the building. I therefore made preparations for an indoor presentation. When it was time for the audience to arrive the building was soon filled. Standing space was all utilized. No space was left through which I could project the picture, and still there were many outside. It was impossible to properly present the program inside; so seats and equipment were moved outside, where the pictures were highly appreciated by all. But the thing which impressed me most at this time was the difference in the attitude of the people. Never before had I seen such interest shown here. Everybody seemed even anxious to assist me in getting things outside and set up again. Favorable comments and expressions of appreciation were made by those who had never before expressed themselves. Similar transformations in sentiment have resulted in many localities on both the Arkansas Forests during the last few years."

DESTINY OF DOUGLAS FIR SEEDS THAT FALL IN THE VIRGIN FOREST

Over a period of years much seed falls on the forest floor under young and old stands of Douglas fir and yet no seedlings of this species become established there. What happens to this seed -- what per cent of it is eaten by birds and rodents, what per cent decays, what per cent germinates at once, what per cent lies viable in the duff for a period of years ready to germinate when the old forest is removed? The answers to these questions have a definite bearing on the management of Douglas fir lands.

To secure some definite information on the amount of germination and decay that occurs in the dense shade of the virgin forest, seeds were placed within a rodent proof enclosure in May 1925, the seed used was found to be 86 per cent sound by cutting test and gave a germination of 53 per cent in the nursery.

Two thirds of the germination occurred the first year and the remainder the second. Had the seed been sown in the fall it is probable that no germination would have occurred beyond the first growing season. An examination of a quantity of the remaining seed revealed that none were viable, many had germinated sufficiently to crack open, but by far the largest number decayed. A total of 8 seedlings, or .03 of one per cent of the number of seed sown, remain alive and these are so frail that they will probably die within the next couple of years.

The work definitely demonstrates that some germination takes place under timber but the seedlings soon die, probably from a lack of light primarily but also from a lack of soil moisture, as seedlings lived longest on the prepared surface where competing roots wer removed. For the areas studied at least it is evident that the life of fallen seed is short. That which is not consumed by birds and rodents or does not germinate the first (with possibly a small per cent the second) year is taken by decay. It appears, therefore, that Douglas fir seed to be a fact-r in restocking logged-off land, must have fallen within a year, or at most two years, previous to the time of cutting. - L. A Isaac, Pacific Northwest For. Exp. Sta. Notes

- - - -

The jury found a tourist guilty of starting a 100-acre forest fire. "Have you ever been sentenced to imprisonment," the Judge asked. "Never," exclaimed the tourist, and burst into tears. "Don't cry," said the Judge, "you are going to be now." - Clipped

THE DUTCH ELM DISEASE

Four trees only, in the United States, have been definitely determined as being infected with the Dutch Elm Disease, according to R. Kent Beattie of the office of Forest Pathology, Bureau of Plant Industry. Three of these were found at Cleveland and one at Cincinnati, Ohio, and all were native American elms (Ulmus americana). There is as yet no evidence as to how the disease reached America.

When the trees have leafed out and such leaf wilting diseases as this become visible, probably best in June, a further description will be published and the assistance of all foresters and others interested in trees will be sought in locating any diseased trees which may exist in America.

SOUND PICTURES NOW BEING MADE BY DEPARTMENT OF AGRICULTURE

Production of sound pictures has been initiated by the Department of Agriculture in its own studio in Washington. A complete sound-on-film recording system has been installed in the old projection room of the Office of Motion Pictures and the work of scoring lecture pictures is going forward.

One of the films scheduled for conversion into "talkies" is, "Forests or Wasteland?"--a Forest Service film completed last fall as a silent film. Another is the Indian Sign Language film that the Office of Motion Pictures is making for the Department of the Interior, under a special appropriation.

The Department of Agriculture now has in circulation more than 200 of the nearly 400 films made since its motion picture work was inaugurated, about 20 years ago, but it is likely that relatively few of these will be made over as "talkies." The rapidity with which production of new talking pictures develops will depend largely on the demand from the extension field. There is reason to believe that this demand will be greatly stimulated in the near future by the appearance on the market of cheaper and more portable sound-on-film equipment than has been available to field workers.

YE EDITOR DISCOVERS

On April 18 and 21 the Forester approved the system of 16 Primitive Areas which had been submitted by Region 5 as constituting their program. The areas are as follows:

Middle Eel-Yola Bola; in the California and Trinity National Forests; area - 143,386 acres.

Agua Tibia; in the Cleveland National Forest; area - 25,910 acres.

Desolation Valley; in the Eldorado National Forest; area - 41,380 acres.

High Sierra; in the Inyo, Sequoia, and Sierra National Forests; area - 761,790 acres.

Marble Mountain; in the Klamath National Forest; area - 237,527 acres.

Caribou Peak; in the Lassen National Forest; area - 16,442 acres.

Thousand Lake Valley; in the Lassen National Forest; area - 16,335 acres.

South Warner; in the Modoc National Forest; area - 70,682 acres.

Mt. Dana-Minarets; in the Mono and Sierra National Forests; area - 82,181 acres.

Hoover; in the Mono National Forest; area - 20,540 acres.

Cucamonga; in the San Bernardino National Forest; area - 5,000 acres.

San Gorgonio; in the San Bernardino National Forest; area - 20,000 acres.

San Jacinto; in the San Bernardino National Forest; area - 33,291 acres.

Ventana; in the Santa Barbara National Forest; area - 45,520 acres.

Emigrant Basin; in the Stanislaus National Forest; area - 98,044 acres.

Salmon-Trinity Alpa; in the Trinity, Klamath, and Shasta National Forests; area - 196,420 acres.

- - - - - -

The final report of the Yellowstone National Park Boundary Commission has just been received from the public printer. It is a very fine example of the printer's skill, profusely illustrated, with an up-to-the-minute cover, many maps and tables, and some interesting memoranda as to the degree to which the areas involved are used by game animals.

Assistant Forester Kneipp, as representative of the Forest Service, participated in the field trip study of the Commission during the summer of 1929, and Regional Forester Rutledge and Forest Supervisor McCain also accompanied the Commission on part of its trip.

The Commission reported adversely on the proposed use of the Bechler Basin area inside the Park for irrigation purposes, but this is a matter in which the Forest Service is not concerned. It did not approve the transfer from the National Park to the Teton National Forest of the two small areas which lie to the south of the South Fork of the Snake River, and it only partially approved the transfer from the Teton National Forest to the Yellowstone Park of the area comprising the headwaters of the Yellowstone River and of Thorofare Creek. One member of the Commission recommended that this entire area be made a part of the Park, but the other four members recommended the addition of only one-third of the area to the Park. The report was not received in time for consideration by the last Congress, but probably will be given consideration when the new Congress convenes.

- - - - - -

The dramatic landing of an autogyro on the White House lawn on April 22 has no doubt been reported nationally through the papers. This "windmill" airplane attracts the interest of forest protection men to an extraordinary degree. It can land and take off almost vertically. There are drawbacks, of course, one of which is that the attention of manufacturers so far has naturally focused on development of planes with relatively small pay-load carrying capacity. The present plane is only supposed to transport two persons in addition to the pilot. Whether it can be developed to transport six or more persons does not seem to have been determined or studied intensively. At any rate, the autogyro is worth watching carefully as it develops and comes into wider use.

- - - - - -

One of our constant readers sends a copy of the April 6 Bulletin, with a Joe Santucci article marked at the spot where Sherrard's and Olmsted's names are misspelled and asks "Doesn't anyone edit Joe's mss?"

The answer is "No! and no one is going to while we are looking."

When we meet an old friend in the field, the pleasure is often heightened by the flavor of home-made grammar. It is like spice from far-off lands. The errors he makes in writing, too, are precious. We've had a hard time trying to keep the blue pencil of our charming assistant from spoiling forceful, salty, but ungrammatical literary efforts. We hope we've got her "broke," because we despise to hear tailor-made grammar used, much preferring to hear them roll their own. It has been noticed that few of us do swathe our conversations in purest English, and Ye Ed. is content to have it so.

SPECIAL USES IN 1930

During 1930 there was a gain of 370 special use permits in R-5. Notwithstanding the financial and unemployment situation, this increase was largely due to paid recreational permits.

Following are comparative figures:

	1929	1930	Gain
Charge permits	7,088	7,304	216
Free permits	2,744	2,898	154
Summer home permits	5,876	6,092	216

R-5 leads the field in being first to pass the ten thousand mark in special use permits, there being 10,202 in effect on December 31, of which fully 75 per cent are of a recreational nature. This, we feel, conclusively shows the need of legislation that will still further stabilize the only Forest Service activity that increases in both "fat" years and "lean."

From the "California Ranger."

R-6 PRODUCTS OFFICE TRANSFERRED

The Office of Forest Products in Region 6 was transferred to the Pacific Northwest Forest Experiment Station effective April 1.

The consolidation of this Research unit with the regional Station constitutes one of the final steps in the program of organization of all the forest research work in each region under a regional Research Director. Such an organization policy was forecast as long ago as 1915, in the order which established the Branch of Research. The theory underlying this policy is, of course, that all classes of forest research are inter-related, that they run together and overlap, and that in the end close coordination is necessary to insure the best results.

The transfer of the Region 6 Products Office comes at an opportune time to insure most effective correlation of its program with the other major Research undertakings in the region, such as the Forest Survey -- particularly the drain and requirements phases, and the investigation of the feasibility of selective logging in the Douglas fir type, with the necessary time and mill scale studies Under this consolidation the large influence of the Administrative organization in the actual selection of projects and in program-making will be maintained through the Investigative Committee, with a majority of Administrative organization membership and of which the Regional Forester is Chairman. The main influence of the change is upon the technical direction and correlation of projects and programs once they are selected and established.

The office will continue as a distinct unit of the Station, and will be directly in charge of the man still to be selected to replace W. H. Gibbons, who has been its chief for several years and who has now been transferred to the Washington Office to head up the extensive revision of forest economic data of the general character incorporated in the Capper Report.

R. E. Marsh

RAZORBACK DESTROYS YOUNG TREES

One of the State Forest Commissioners of Mississippi, Mr. P. N. Howell, living at Howison, wanted to learn the damage done in longleaf pine by razorback hogs; so set out to observe. He followed a hog from 8 till 4:15, when the hog left the woods. In that time this one pig rooted out 400 trees. Mr. Howell figured that in 100 days one hog would destroy 40,000 young trees, enough to reforest 60 acres. To raise and plant the trees would cost $200, and the pig is worth scarcely $5.

The hog also does much harm in eating wild turkey, quail and other birds, eggs and frequently the young birds. - H. N. Wheeler

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV, No. 19 Washington, D. C. May 11, 1931

PLANTING (PISCATORIAL)

By L. F. Kneipp, Washington

In this world where balances of trade, balances of power, and other balances or ratios constantly demand attention, there is need for more consideration of the balance between fish and fishermen, or more correctly the lack of balance. Time was when the ratio between the members of the finny tribes and the human tribes was so pleasantly proportioned that no disciple of Izaak Walton need return fishless to his hearthstone; when there was some element of fact in the allegation that one had to hide behind a tree to bait his hook, or in the tales of two or even three strikes at a single cast of the line. But where can such things happen in these days of motorized invasion of every nook and corner within the Nation's borders?

Members of the Forest Service assert that such unbelievable happenings can and do occur even in this year of our Lord in some parts of the National Forests. Not in those parts which are accessible to automobiles, for there as elsewhere the fishermen seem to outnumber the fish and only he who is blessed with good fortune or piscatorial skill of the first order can corral large enough and numerous enough fish to rate the congratulations of his envious colleagues. But off the rubber-tired path, in those isolated spots to which Shank's mare or some other mare, or gelding, is the sole means of transportation, the hardy fisherman who does not insist on automobile delivery to the water's edge can still find fish which possess neither complexes nor inhibitions other than those with which nature endowed their progenitors in the days when the world was young.

Part of this is due to the defensive barriers of nature, part to the activities of the United States Bureau of Fisheries in rearing and delivering fry and fingerlings and the activities of the field officers of the Forest Service and many enthusiastic private cooperators in transporting and planting the young fish in fisheries or depleted streams and lakes where conditions are favorable to their growth. During the past four years it is estimated that members of the Forest Service, with cooperation of enthusiastic local fishermen, have planted 135,000,000 fish in the National Forest waters.

Fish planting is hard work, withal interesting. Word is received that on a certain day the fish car will deliver at a certain point the number of fish previously requisitioned. Sometimes the day is close at hand and the point many hard miles away. There ensues a great bustle of activity, containers are gathered, cooperators are summoned, transportation is arranged, plans are perfected. Transfer from the fish car is rapidly accomplished and the earnest band is on its way, over good roads and bad, then over good trails and bad, with the cans packed on horses or broad human backs. Water has to be replenished and aerated, finally the fish have to be introduced to their new home waters gently and carefully so that mortality will be held to the minimum and labor saved from loss. It is hard grueling work but--two years afterward--when two fish race to grab a single fly--then there is solace and consolation and many tall yarns, and humanity again receives a fresh shot of optimism, a new outlook on life.

WHAT THE FOREST SERVICE IS DOING TO RELIEVE UNEMPLOYMENT

Month of March 1931

Appropriation	Temporary Employments March 1931			Temporary Employments Anticipated to June 30, 1931		
	Number	Man days	Amount	Number	Man days	Amount
S. and E. 1931 Emerg. Construction	5,449	69,723	$209,996	13,544	226,182	$ 648,798
Highways within N.F's. 1931 Emerg. Constr.	185	1,552	4,183	1,594	16,478	49,060
Insect Infestation Emerg. Construction 1931	122	1,891	6,014	765	25,382	85,679
S. and E. 1931-32 Improvement	74	635	2,326	636	15,458	58,794
S. and E. 1931-32 Sanitation and Fire Prevention	..	...	.....	111	1,432	5,561
All other Appr's	2,921	22,958	73,404	9,907	226,235	836,757
Totals	8,751	96,759	295,923	26,557	511,167	$1,684,649

"QUAIL"

(Excerpts from the H. L. Stoddard report on Quail Investigation 1925-26)

In a study of 104 nests, discussed further in connection with the natural enemies of quail, 11½ per cent were in woodlands; 15½ per cent in fallow fields, of one to five years; 46 per cent in thin growths of broom sedge -- older fallow fields; the remaining 27 per cent were found in various places, such as along roadsides, near houses, etc. In fact, 65 per cent of al nests were sheltered in whole or in part by broom sedge.

Of nest materials, about 65 per cent were principally of broom sedge leaves, 8¾ per cent chiefly of pine needles, and 21 per cent of fine grasses, leaves of trees, and Spanish moss.

A study of quail nests and their location is of decided interest, but of no less importance is a study of the sheltering vegetation and the material used in nest building, which, of course, varies with the type of country. Material available within a foot or two is always used in the nest construction, and for this reason it is well to leave an abundance of suitable nesting cover of the preceding year's growth in small patches well distributed all over a quail preserve. If great areas are swept bare by burning, or cultivation in large tracts is the rule, the birds nesting on the preserve are forced to congregate in the limited cover left and are largely at the mercy of prowling enemies. An abundance of suitable nesting cover is a fundamental necessity. A dense tangled growth of wire grass or broom sedge, however, is not suitable nesting cover. In open cultivated types of quail country the scattered growths of broom sedge beginning to take possession of small fallow fields furnish ideal nesting cover, and this is easily controlled by crop rotation of small fields, as recommended elsewhere in this report. In a wire-grass, wooded country of the "flatwoods" type, a similar rotation of small cultivated plots is conducive to best results.

- - - - - - - -

When the pine cones began to open early in November and the shower of "mast," or seeds, began to fall, quail which up to that time had ranged largely in the open fields flocked into the pine woods. A glance at the food study chart will show the reason, for during November 77 per cent of their food was pine mast. A convey along an open road where the mast was easily found presented an interesting sight as they greedily picked up the seeds and bit off the long wings before swallowing them. The long-leaved yellow pine (Pinus palustris) and the old-field, or loblolly, short-leaved pine (Pinus taeda) furnished the major part of the mast.

The manner of seeding of the two species is worthy of note. The long-leaved pine, which bears large thin-shelled seeds, dropped practically all of its mast during a few weeks. The thin-shelled seeds sprouted quickly, with the continued warm rains, and within six weeks after the seeds began to shower down their importance as a food was past. Stomachs collected on December 19 showed a good percentage of long-leaved-pine mast, whereas those collected on December 27 showed practically none.

The cones of the loblolly pine opened slowly, dropping the small hard-shelled, nutlike seeds continuously from early in November well into February. The hard-shelled seeds, withstanding the effect of the rains, did not sprout in quantity until late in February. One quail shot in the southern part of the region on February 6 had eaten at least 345 seeds of the loblolly pine, which was 84 per cent of its meal.

Of the 302 stomachs examined, 281 contained pine mast, many of them nothing else; the average proportion of pine mast in the food for the season was 43.3 per cent.

- - - - - - - -

The total failure of the pines to make a crop of seeds during 1925 is in marked contrast with the bumper crop of 1924 and makes a striking difference in the food habits of the bird for the two seasons. A killing frost about the middle of November, 1925, liberated a shower of seeds of sweet gum (Liquidambar styraciflua) equal to that of the pines of a few weeks earlier in the year previous. Therefore, quail were most often found in the low woods and along gullies where sweet gum abounds until late in December, when the gum seeds were replaced by other foods then in greater abundance. In contrast with the pine seeds, from which the wings were removed, the small flat-winged seeds of the sweet gum were swallowed whole,

With the passing of the crop of sweet-gum seeds the birds turned their attention to acorns and legumes, the latter chiefly seeds of partridge pea and beggarweed. Not only fragments of acorns but whole acorns of considerable size were eaten in quantities.

Two seasons' study of the quail's nesting have shown that there is a tremendous destruction of the eggs and young birds, particularly the former, by their natural enemies or the elements, as well as a continuous drain upon the adults. General burning sometimes removes every vestige of cover except that around low, wet spots, and later, during times of temporary drought, the quail nest in these hazardous situations, only to have their nests flooded and destroyed at the first hard rainfall. As the elements are beyond control, wholesale desertions of wet and flooded nests by the quail may be expected to recur when there is excessive rainfall during laying seasons. This is sometimes partially remedied on preserves by burning or otherwise removing attractive nesting cover from around depressions. The destruction occasioned by the quail's bird, mammal, and reptile enemies, however, is a different matter and more subject to human control.

- - - - - - - -

The effects of fire on vegetation and insect life are very marked, and a knowledge of them is of the utmost importance in the development and maintenance of a quail preserve. While the exact effect of fire on the many kinds of vegetation that contribute to the quail's food supply and cover can be determined only by observations over a long series of years, it has been possible to study the subject from the comparative standpoint on preserves in quail country of various types where the fire policy of each is known. Fire is unquestionably a controlling factor in determining the types of woodland in any given area in this region, as well as in the regulation of the ground vegetation.

While fire is a useful means of controlling broom sedge and certain types of brushy woodland on preserves in this region, particularly in the vicinity of Thomasville, to keep them in proper condition for quail, the investigators do not wish to be understood as recommending, because of any supposed benefit to the quail supply, general burning, with its destructive effect on forest growth. Great areas of the adjoining flatwoods are burned regardless of season and without control. Preliminary studies carried on in such regions indicate that the vegetation is not necessarily too dense for quail where it has remained unburned for years, and the annual burning to which much of it is subjected appears to do vastly more harm than good to the food supply. If the dominance of wire grass in such regions is due to frequent burning, as supposed, protection from fire would be expected to produce a more varied and favorable vegetation.

Owners of quail preserves in such areas would do well to establish a series of fire guards dividing their areas into sections of a hundred acres or so. A practical way to make these guards is to plow two or three furrows on each side of 12 to 20 foot strips and burn out between them annually. With such fire lanes, fire could be kept out entirely, or the thicker parts burned as desired without affecting adjacent areas. The "bird feed" patches that are so valuable in this type of country, because of the variety of leguminous plants that persist upon them for years after cultivation, can be so located as to aid in the system of fire controls.

In the rolling, cultivated type of quail territory of the Thomasville-Tallahassee region, where broom sedge is dominant in the open country, the system of rotation recommended elsewhere in this report will simplify the burning problem, which has proved exceptionally hard to solve, from the desire of negro tenants to burn every particle of cover large enough to conceal a snake. By this system the great sedge areas would be broken up by the series of small fields and hedges. If old, thick, broom-sedge areas are done away with, the problem of cotton-rat control also will be greatly simplified or will disappear, for dense sedge is the favorite habitat of these obnoxious rodents. Where broom-sedge has a tendency to become dense and "woolly" in open woodland, it can not be controlled economically by plowing, and when quail are of primary importance, woodland and land that has a tendency to grow up to jungle-like undergrowth, must be burned over to keep it in good condition for the birds.

Fire, however, is a two-edged sword and if not intelligently controlled is capable of doing great damage. Nothing could be more destructive to quail and wild turkeys than burning the cover during their nesting season. The effect of fire as a sterilizing agent in preventing the spread of such quail diseases as coccidiosis is unknown, but it may be of importance. There seems good reason to believe that it is of importance in controlling ticks, chiggers, and perhaps some of the other external parasites of these birds. Such possibilities are kept in mind in this study and will be investigated and later discussed in detail. - H. R. K.

EARLY GRAZING IN THE NORTHERN PLAINS

By E. N. Munns, Washington

Erosion in the Northern Great Plains region has been responsible for a reduction in range values and for the loss of much soil which found its way into the Mississippi. Although portions of the Bad Lands region are the result of natural erosion, some so-called bad lands are man-caused.

It is not unreasonable to suppose that the great herds of buffalo overgrazed sections of these plains. In fact, it would be surprising if they did not, for most unrestricted animal life tends towards overpopulation. When this stage is reached, it then is checked by famine, pestilence, or other natural causes.

When the great herds of cattle supplemented the buffalo, the better sections of the plains were grazed rather closely. After the boom years of the industry in 1880 to 1885 came depressed markets and, as in our own time, the stock industry attempted to retain on the already overgrazed range, the natural increases in the herds which the market previously had taken. To complete the picture surplus stock from the farm belt were driven to Montana and the Dakotas in search of feed.

Descriptions of the range at this time depict situations which undoubtedly did much to decrease soil productivity, to ruin some soils, and to increase the amount of soil material washed away by the Missouri. The forage was said (1886) to be in the worst condition since the country had been known to the white man. Because of drought, the grass grew but little and when it did grow there was always cattle waiting to crop it back to the roots. Sometimes the cattle were forestalled by grasshoppers. Streams, like the Rosebud, ceased to flow and the face of the country looked like a desert. "The earth in every direction had been trampled and hoof-beaten so that it presented a powdered appearance and every gust of wind was laden with clouds of sand and dust. Truly it looked as though every vestige of vigor and growth had been beaten out of the ranges." Range and brush fires helped to remove feed, and poisonous plants which were unattractive to stock when grass was plentiful, were eaten and losses caused.

This period of intensive use was followed by the severe winter of 1886-87 in which from 40 to 70 per cent of the cattle were killed. But, that winter came too late, for the damage had been done. Undoubtedly the intensive use and abuse of range were responsible for severe erosion, the effect of which may probably still be felt in reduced carrying capacity of the range and in the presence of gullies and bad lands.

YE EDITOR DISCOVERS

A report has been received from Region 1 regarding the reorganization of central and eastern Montana ranger districts and forest units. The study has utilized very fully the techniques developed in recent years for determining by analytical methods the job load weights of the positions required in National Forest administration. It takes into account important changes in transportation methods and facilities, changes in volume of work, and naturally finds that problems of organization and management have a very different aspect from those that confronted the Forest Service when many of the National Forests and ranger districts were originally laid out. Although a more or less continuous reorganization of eastern Montana has been going on for many years, the study shows that if the recommendations for reorganization are carried out annual savings of $62,615 will be made over the financial set-up as of July 1, 1930. In addition to meeting other demands on the Region, the savings effected by this reorganization will make it possible to provide for systematic work on new jobs which have arisen and which are not being satisfactorily handled at the present time. The usual difficulties that occur when any reorganization involves the removal of a district ranger's or a supervisor's office from a town are being encountered.

- - - - - - - - -

Telegraphic reports from Region 6 indicate that fire troubles in April were doubtless unprecedented in the history of the Region. A week of the dreaded east wind with humidity running as low as 16 per cent at Portland at 5 a. m., together with the usual sweeping-in of fires from outside the National Forests, resulted in a probable loss of 5,000 acres of National Forest area on the Siskiyou, Siuslaw, Mount Hood, Rainier, Olympic, and Columbia Forests. A 3,000-acre fire in Wind River Valley threatened the nursery and other buildings which were endangered during the Columbia fire of 1927. A rough estimate of the cost of fire fighting is $15,000. An aftermath of the east wind is a telegraphic report of heavy timber blow-downs on seven Forests, seriously increasing fire danger and necessitating greatly increased maintenance expenditures on telephone lines, roads, and trails. It is estimated that thirty million feet of timber are down on the Deschutes. There are scattered small areas of 40 acres and up where nearly all trees have been blown over. Plans looking to closure orders on areas where danger will be greatest are being made.

- - - - - - - - -

"Forests and Water in the Light of Scientific Investigations" has now been translated into another language - Russian. This translation, by Prof. I. I. Rostchin, is being published by the Transcaucasian Institute of Water Regulation and Forestry at Tiflis.

- - - - - - - - -

During the coming season the Kaniksu is going to plug the gap at two lookout stations, when the lookout men are absent on fire duty, by employing married men whose wives will be with them on the lookout job. The wives will be boarded for lookout service rendered during the husband's absence.

- - - - - - - - -

Franklin W. Reed has resigned his position as Industrial Forester of the National Lumber Manufacturers Association to become Executive Secretary of the Society of American Foresters, succeeding W. R. Hine, who because of continued illness has been forced to retire indefinitely from active service. Mr. Reed is well known in the forestry profession. He was a member of the Forest Service for over 20 years, six of which he served as Regional Forester of the Eastern Region. Since leaving the Service in 1924, he has been engaged in private forestry and consulting work, served a year with the National Conference on Outdoor Recreation, and in 1928 went with the National Lumber Manufacturers Association.

A good deal of Mr. Reed's time in his new position will be devoted to securing factual information for the National Timber Conservation Board.

OUR FIRST CHRISTMAS TREE

By Joe Santucci, Washington

Do you know that the Service had a Piano in the early days and during lunch time the clerks would go up on the roof and hear the playing by a Mrs. Hall, the wife of the Superintendent of the Atlantic Building, and say! She could play. Her husband sure was a scream-sort of a comedian. They occupied the room on the the 9th floor.

Mrs. Hall on Christmas had a tree and that's how good old Harry Towers got the idea of the Forest Service Christmas Tree. Now let me tell you about Uncle Harry Towers. Before coming into the Service he was Teller at the Met. Nat'l. Bank on 15th St., and a pal of Geo. Sudworth. Harry Towers had his first tree in the room on the 9th floor, the Halls had moved out. Well, we had something like 10 children at the Christmas Tree. My two children were among them, but say, I'm a grandfather now. Anyhow I want to say that Uncle Harry Towers was the Disbursing Clerk and paid us off on the 8th floor sitting behind a small table with the cash piled up. We all got in line, signed the payroll and in 15 minutes the whole force was paid. Imagine! all in silver, but each of the clerks averaged about $20 half month's pay. We sure got big salaries. Uncle Harry Towers was an original Santa Claus. No make-up was necessary - he was one fine man who was loved dearly by all, especially the children. The Grand Old Man of the Forest Service - Good Old Uncle Harry Towers.

NEW LABORATORY BUILDING TO OCCUPY SITE OF OLD INDIAN MOUNDS

The new Forest Products Laboratory Building will occupy the site of several Indian ceremonial and burial mounds estimated to be 500 to 1000 years old. They were probably built by early Algonquins, according to local authorities.

One mound, a linear structure of a tapering outline, has recently been found to contain a ceremonial fireplace of an unusual form, together with symmetrically placed bowlders. The only other relics were small deposits of ashes elswhere in the mound. Fragments of earthenware, etc., and the badly decayed bones of a so-called bundle burial were taken some years ago from two other mounds, one a bird effigy, on the same hill.

The site of the new $900,000 Forest Products Laboratory building, about 10 acres in all, includes the hill near University Avenue and Highland Avenue which was known to be an extremely important community center of the Indians of comparatively modern times and, judging by the presence of the mounds, probably was a spot of even greater importance to the earlier dwellers in this region. The fact that the earlier Indians, despite crude facilities for excavating and transport, carried some 9,500 cubic feet of earth to the top of this high hill for the linear mound alone would indicate that the spot was a sacred one in the tribal religion.

Records show that a band of a hundred Winnebago Indians were encamped on the site of the new Forest Products Laboratory as recently as Civil War times.

A DENDROMETER FOR TWO CENTS

A screwhook and a screw, plus a dial micrometer gauge, constitute the newest type of dendrometer for accurate measurements of tree growth.

In practice, the screwhook, in which the end is bent at right angles to the shank (the curved type is unsuitable), is placed in the tree a little to one side of the point at which growth is to be measured. This hook is screwed into the wood of the tree. Directly in line with the end of the bent over part of the hook a very small screw is placed in the bark only. The distance between the head of this screw and the hook is measured with the micrometer gauge. As the tree grows the bark is pushed outward, carrying the screw with it, while the screwhook retains its original position. The distance between screw and hook thus diminishes, and the difference between the original distance and distance at any subsequent time is the radial growth during the intervening period.

The growth readings - made to one-thousandth inch - are not affected by the expansion and contraction of the stem caused by the pull of transpiration, as is the case with the MacDougall type of dendrometer.

The cost of these dendrometers is small - about two cents for each set of screwhook and screw - and the micrometer gauge, which can be used to measure any number of points, costs but $16.50 as compared with $250 for a single installation of the usual type. --Reineke, in "California Ranger."

BEWARE

"More than 1,000 cases of venomous snake bite were reported last vacation season. More are expected this season because of the increase in number that take their vacations in the outdoors and also a marked increase in the number of venomous snakes, attributed to increase in agriculture, which favors snakes. Venomous snakes of the United States are the rattlesnake, the copperhead, the cottonmouth or water moccasin, and coral snakes. These snakes and their sub-species range in practically every State; only Maine, New Hampshire, and Vermont are nearly or quite free of them. Contrary to belief, venomous snakes range where population is thickest. The rattlers and copperheads are notoriously thick in five of the most densely populated States, New York, New Jersey, Connecticut, Massachusetts, and Pennsylvania, according to Dr. Raymond L. Ditmars, recognized as one of the greatest authorities on this subject." - Hunter, Trader, Trapper, Feb.

- - - - - - - -

In the open-grown trees, the taper is more rapid and consequently the volume is less than in trees grown in dense stands. The use of volume tables prepared for trees in dense stands gives, therefore, larger volumes than actually are found when applied to open stands. By actual measurements, this difference was found to be in favor of well-stocked stands by 6.5 per cent for aspen, 5.6 per cent for paper birch, 1.7 per cent for jack pine, and 5.4 per cent for black spruce. - Lake States For. Exp. Sta. Technical Note.

- - - - - - - -

From 1901 to 1930 more than 116,000,000 young trees have been sent free to more than 100,000 applicants living in the prairie Provinces--Manitoba, Saskatchewan and Alberta--by the Canadian Government Forest Service of the Department of the Interior. Last year more than 6,000,000 tree seedlings and cuttings were shipped. In the past thirty years several millions of trees also have been sold to prairie farmers by commercial nurseries, according to the official inspection reports.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 20 Washington, D. C. May 18, 1931

DUST EXPLOSIONS

By Perkins Coville, Washington

While attempting to get some information, regarding the inflammability and ignition temperatures of wood, for those who are intensively studying the forest fire problem, it was my privilege to witness a demonstration of dust explosions, staged at the Department's farm at Arlington, Va. The research in dust explosions is carried out for the purpose of determining ways and means of protecting life and property in flour mills, saw mills, woodworking plants, mines, etc., where fine organic or metallic dusts that may explode are prevalent.

It is rather impressive to see (and hear) a heaping teaspoonful of finely ground metallic aluminum explode in a small sheet-metal model of a manufacturing plant. The aluminum powder merely has to be dissipated with a light jet of air, and be touched off with an electric spark to create a powerful explosion.

Larger scale explosions at Arlington are produced in a substantial wooden framed chamber about 4 x 5 x 5 feet, with 100 cubic feet capacity. This structure is fitted inside with some 6 or 8 hemispherical cups each capable of holding about 2 ordinary cupfuls of material. Above each cup is an air jet. Near the floor is the heating element from an electric radiant or reflecting heater. The chamber is fitted with several sets of main trap doors that are hung to swing outward. Each of these doors has a medium and a small sized door built into it successively so that a combination of these different sized doors can be battened down to leave vents for the explosion of any given size. On one side the chamber has two steel sash window frames, so hung, off center, that explosions can be vented by them automatically when they are not fastened shut.

Two explosions in this chamber were witnessed, one produced by some 1500 grams of cork dust and one by a lesser quantity of starch. By standing at a point not directly opposite the windows (one of which blew out) the progress of the cork dust explosion was seen. The heater element was turned on and somewhat overloaded to produce a fairly intense heat. Then compressed air was turned into the jets. The dust was first raised by the jet of air into the cups but as the first of it fell some of it touched the heater unit and caught fire with a dull glow. It seemed that there was appreciable interval, perhaps one second between this point and that at which the maximum explosive effect was gotten. The explosion was impressive but by no means sharp. The pressure built up very rapidly but over a perceptible interval, ending in large jets of flame and smoke that forced their way out of the vents for

10 or more feet. If the explosion had been more confined it would undoubtedly have caused a sharp report and been very destructive.

Dust is not usually as well agitated in mills as in these demonstrations, and it is not easy at first to see how serious explosions in mills occur. Often a harmless preliminary explosion in a mill is caused by the ignition of a small quantity of dust by a hot machine bearing or a short in electric wiring. This primary explosion is often sufficient to jar the building in which it occurs, to stir up much larger quantities of dust, and to precipitate a serious secondary explosion.

Peculiar situations may cause dust explosions. A paper on the subject stated that burning materials have occasionally been drawn into the suction ends of blower systems used to transport hogged wood fuels, with the result that explosions occurred in the cyclones or storage bins, to which the fuel went. In one case firemen, desiring to put out a fire that had started in a fuel bin without causing an explosion, turned a stream of water into the bin. The first play of water, however, stirred up so much dust before the fire was put out, that a serious explosion resulted.

A SAMPLE PLOT

By Roy Headley, Washington

A forecast of what may be expected in fire control financing in other Regions when they have attained their area burned objective is to be found in the Region 3 record for the past five years during which period, while reducing costs of fire control, the area burned was cut to one third of the previous showing. Here are their figures by five year periods:

	Area Burned acres	Special * Costs	Damage	Cost plus damage
1921-1925	90,730	$289,070	$98,904	$387,974
1926-1930	31,450	275,760	40,086	315,846
Total reduction	59,280	3,310	58,818	$ 72,128

As compared with the preceding five-year record the figures for 1926-30 show that the per cent of class C fires was reduced from 12 per cent to 5 per cent and the number of man-caused fires from 1,345 to 1,145. The financial showing made by the New Mexico Forests and by three of the Forests in Arizona was particularly noteworthy.

"* Special" = other than yearlong salaries and improvements.

SOME EARLY DAY FORESTRY SALARIES IN GERMANY

By J. Roeser, Jr., R. 2.

In a recent issue of Zeitschrift fur Forst - und Jagdwesen, a contributor calls attention to the limited amount of information to be gleaned from most professional publications concerning historical development of the circumstances affecting employment within the professions. As a rule, such historical accounts are extremely interesting, especially to the rank and file of workers. This particular writer presents some figures on the wages of the higher forestry officials of Baden in 1790.

Briefly, the organization of the forest administration in question consisted of a grand master of the hunt, an assistant in the guise of a young squire, and nine forest supervisors, each in charge of a district. The grand master of Gensan received an annual monetary salary of approximately $929 (2,310 guldens) and fees in kind amounting to 372 bushels of corn, 540 bushels of spelt (wheat), 1,620 bushels of oats, 2,160 pounds of hay, 600 bales of straw, 40 cords of wood, 30 aams of first-class wine (about 1,200 gallons!), and 25 aams (1,000 gallons) of second-class wine, in addition to free residence, one deer, one hind, one pig, six roebucks (not to be confused with Sears and -), 24 chickens, 24 rabbits, ammunition money, hunting privileges and peltry. He also received what is equivalent to a per diem allowance of $3.75. The forest supervisors received salaries varying from $653 to as low as $131. Fees in kind were in proportion to those received by the grand master, minimum quantities being 216 bushels of corn, 432 bushels of spelt (wheat), 30 cords of wood, 10 aams of first-class wine and a like quantity of second-class wine, 1,440 pounds of hay and 400 bales of straw. Free residence and the other appurtenances for stock, game, hunting privileges, etc., were also included. While the boys in those days hardly brought home enough cash of the land to play the market occasionally, they evidently lived on the fat of the land, and in some respects were to be envied.

However, all was not bread and honey. Regulations, then as now, were expected to be enforced and woe betide the forest officer who permitted an operator to "slip one over on him." The ordinance of September 21, 1733, set a limit of one-half foot on allowable stump heights on level terrain and one foot on slopes and declivities. Evidently, there had been plenty of abuse in connection with this ordinance, and the usual kind of improbable excuse was offered a few times too often in official reports. On the 29th of October, 1790, it was decreed that, henceforth, a fine of 8¢ was to be assessed against each forester in charge of a district for each stump above the allowable height, in addition to the costs of the investigation. Also, in such cases where the number of such stumps exceeded 100, the guilty officer was subject to suspension from service with loss of pay and keep for one-half to one year. In order to put teeth in the ordinance and to keep the boys on their toes the informer was entitled to one-third the fine, upon definite proof of the facts in the case.

APPREHENSION AND COMPREHENSION

Extracts from an article by G. H. Bretnall, Shepherd College.

If we are to make things vivid for the pupils who sit under our tuition, the more we illustrate the subject the easier will be the task. Much as this phase of educational procedure has been discussed and great as have been the advances which have been made in this line, yet its place in education is far below what it should be. In fact, it is really comparatively small. A lengthy verbal description is often resorted to when illustrative material could be used to attain a better and clearer comprehension of the subject. In general, the object itself is the best teacher; the picture is next in value and the written or spoken description is the least effective. Discussion and explanation must, of course, accompany the study of the object or picture but the amount needed is immensely reduced.

One great fault of our schools is the spending of precious teaching time in imparting bare facts and neglecting to develop the thinking power of the pupil.

In nature study, for example, the teacher should take the children to field, stream and forest, but because of the schedule under which most teachers work the possibilities in this line are limited. She can, however, bring a large amount of animal and plant material into the school room, especially in favored localities.

Probably most teachers are negligent along this line, do not use enough illustrative material, and continually talk about a host of things which they never illustrate and which the students therefore fail to understand.

The difficulty in the case of most teachers, grade, high school, and even college, is the obtaining of sufficient illustrative material. One of the most productive sources has been lantern slides and there are a host of slides to choose from.

A child lives in a world of enthusiasm and dreams. His dreams can be made to come true to a considerable extent and his enthusiasm can be markedly increased by the proper presentation of the subject-matter in hand. A large factor in this is extensive use of projection.

H. R. K.

THEN AND NOW

By Alva A. Simpson, Custer

Progress in distribution of range privileges is not so perceptible from day to day but is more marked when a comparison over a period of years is made. January 1, 1910, the gross area of the old Custer, now the Ashland Division of the Custer, was 590,720 acres, with a net area of about 540,000 acres, upon which were permitted 22,630 cattle and horses and 13,500 sheep, representing 244,500 cow months and owned by 126 permittees. The largest permit was for 2030 cattle. Two others were for 1500 each, and 7 permittees exceeded 500 head.

On January 1, 1931, the gross area of the Ashland Division was 501,596 acres and net area 430,343 acres. Under grazing permit there were 20,445 cattle and horses and 8,515 sheep, representing 155,820 cow months and owned by 225 permittees. Only one permit exceeded 1500 head of cattle, and four 500 or more.

In 1909, about 2.2 acres per cow month was permitted; in 1930, 2.8 acres per cow month was permitted. In 1909, the average number of cow months per permittee was 1147; in 1930, 700. In 1909 distribution benefitted 126 homes which, at an average of five per home, represented 630 people; in 1930, the Forest benefitted 1125 people on the same basis.

Of the 126 permittees of 1909, 43 are using the Forest today, representing an overturn of about 66 per cent in 21 years. Incidentally, the control of the Forest range by fences was recognized in the Supervisor's report of 1909 and the allowance letter specifically prohibited the Forest Supervisor from expending to exceed $100 on any range improvement project without prior approval by the District Forester. The year 1931 marks the completion of the fence control program, with almost 200 miles of Government owned fence in existence.

U. S. vs. TUJUNGA WATER AND POWER COMPANY

The United States Circuit Court of Appeals for the Ninth Circuit, San Francisco, California, on April 6 rendered a decision in the case of the United States vs. Tujunga Water and Power Company which is of interest to the Forest Service. In this case the company had obtained a grant of an easement for a reservoir under the irrigation act of March 3, 1891. It was represented that a dam 115 feet in height would be built, resulting in a reservoir covering an area of approximately 93 acres. The company built a low dam which did not rise above the level of the stream it obstructed and was intended to obstruct the underground flow of percolating waters. No reservoir as such was made. The Forest Service contended that such a dam did not meet the requirements of the law under which the grant was obtained. In a suit to procure a forfeiture of the grant the United States District Court for Southern California decided in favor of the company and held "if, within the general plan outlined by the plans of location, substantial improvements are made, which are of practical use to an irrigation company in its business of supplying water to the inhabitants of the particular territory, the requirements of the statute are satisfied and the rights obtained may not be disturbed."

The Circuit Court of Appeals held that the decision of the District Court was in error. It said that an agreement had been entered into between the Government and the Water Company the nature of which is shown by the statements on the company's application. The Court said: "If the Government is generous enough to allow certain privileges to its citizens, it has the right to expect something in return; and when the Government makes a grant of an easement with the understanding that certain specifically noted things will be done, then the Government has the right to exact compliance with the strict terms of the agreement." * * * "The submission of this map by the appellant company and the approval of the details thereon by the Secretary of the Interior created a binding contract." * * * "The words of the statute must be read into and are an integral part of the contract. There is nothing here about 'substantial improvements', nothing that says or implies that 'it is not that the Government is interested in having constructed works, conduits, and storage reservoirs of the exact and particular kind contemplated by the parties who make location of Government land', but rather is there a clear statement that 'if any section of said canal, or ditch, shall not be completed,' within the specified time allowed, the rights granted shall be forfeited."

The Court cited with approval the case of the United States vs. Big Horn Land and Cattle Company, which was decided by the Circuit Court of Appeals for the Eighth Circuit at Denver, Colorado a few years ago and raised a somewhat comparable question. - C. H. Squire

YE EDITOR DISCOVERS

If the central Forest Protection Board approves the recommendation of the Forest Service, the Chief Coordinator's office will be requested to take an active interest in securing the passage of a bill extending the provisions of the Forest Service fire trespass regulations to the Oregon and California and Coos Bay lands in the State of Oregon.

The Board is also requested to take an active part in attempting to secure legislation enabling the United States Commissioners to hear and act upon certain classes of violations of laws and regulations affecting National Forests.

In the Forest Service section of the Board's report is included a table of percentage of loss of area for five-year periods beginning with 1910. The report points out, of course, that 1930 brought practically none of the bunching of lightning fires which overloads organizations and leads to intolerable losses. The table is as follows:

Period			Average Annual Loss of Area for Each Period
1910 - 1914	inclusive	5 years	.75%
1915 - 1919	"	5 "	.60%
1920 - 1924	"	5 "	.29%
1925 - 1929	"	5 "	.33%
1925 - 1930	"	6 "	.29%
1930	only	1 year	.11%

- - - - - - - -

During the calendar year 1930, the Federal Government spent $73,273 in the cooperative distribution of forest planting stock under the Clarke-McNary law and the States spent $310,906, making a total expenditure of $384,179. The largest expenditure was made by New York State in the sum of $90,548. Hawaii spent $26,628; Pennsylvania $20,683; Indiana $17,122; New Jersey $15,840; Porto Rico $14,905; and Nebraska $10,136. Additional sums expended by the States for the production and distribution of forest planting stock outside of the Clarke-McNary project aggregated $266,971, making a total expenditure from public sources for carrying on this work of $651,150.

- - - - - - - -

Search of the records for data needed in connection with the 1931 Protection Board report shows that approximately 270,000 acres have been added to the National Forests from the public domain since April 1, 1929.

- - - - - - - -

The Secretary of Agriculture has taken the position which other Cabinet members have indicated in recent newspaper dispatches with reference to salary advances. Instructions from the Department are that no July 1 promotion recommendations may be submitted because none will be approved. It is understood that when vacancies in positions are filled by promoting employees from lower grades, salaries will be increased to the minimum of the grade in which the vacancy occurs.

- - - - - - - -

Employees retiring before deposits have been made for the full 30-year period under the present retirement law will receive a much smaller annuity than those retiring after 30 years of service under the present law. This naturally brings up the question "What can a man do to secure an annuity from insurance companies?" One highly rated insurance company offers a policy under which a payment of approximately $758 may be made annually for ten years beginning with age 52. In the event of death before age 62, all payments with interest are returned to the estate. Beginning with age 63 an annuity of $1,000 annually would be paid the employee until death.

- - - - - - - -

The May issue of the Four L Lumber News, Portland, Oregon, was an "Annual Fire Prevention" number, in which several instructive articles, editorials, and cartoons carried the fire prevention message.

- - - - - - - -

Recknagel in the May Journal of Forestry mentions Hodgson's study of woods waste as showing that as much material of cordwood size is left in the Washington and Oregon Douglas fir logging each year as the entire pulpwood production of the United States.

"IT'S AN ILL WIND"

Days of '49 are here again. Recently one of the army of unemployed moved in on the San Francisquito camp ground to save rent and hit upon the idea of "panning" the San Francisquito gravels for his means of livelihood.

The Saint Francis Dam break has exposed several old creek channels on the side hills and it was to this gravel that our friend turned. He struck it rich, or so he told all the boys at Murray and Ready's in town several days later. At any rate there started one of the wildest scrambles for San Francisquito you ever saw. They came in every kind of conveyance from mule carts to Pierce-Arrows; some on foot, some on bicycles. Their implements for mining were a scream. Some had fashioned sluice boxes from sign board lumber, others were panning with anything that would hold water, from the legitimate miner's pan to baby's tubs and chamber pots. On one Sunday there were 1,500 cars and 4,500 miners and near-miners in the canyon, nearly all panning detritus that had been washed in by the flood and which was piled 30 and 40 feet deep above bed rock. Mineral location mounds dotted the wash on government and patented land alike, and the landscape resembled a cemetery of monuments.

Our one camp ground has long since overflowed and we hereby make request from Barrett for $1,000 from camp ground funds for additional facilities. - From "California Ranger"

UTAH FLOODS

The Utah Flood Commission of which Director Forsling of the Intermountain Forest and Range Experiment Station and Professors Reed Bailey and R. J. Becraft of the Utah State Agricultural College are members, concluded that the flashy floods and mud-flows in Utah, although due directly to heavy torrential rains on steep slopes, were indirectly the result of sparseness of vegetation. This sparseness was due in some cases to the natural conditions within the watersheds, but in many cases was also due in large measure to denudation by overgrazing, fire, and timber cutting named in the descending order of their importance. The floods in Davis County, the worst in the State, were almost wholly the result of man-caused denudation as they had originated on a relatively small area at the heads of the steep canyons where there has been very heavy overgrazing by both cattle and sheep. This was on privately owned land.

The study revealed that the floods of 1923 and 1930 in places cut as great a depth in the old Lake Bonneville deltas as had been cut in all the years since Lake Bonneville receded. Moreover, had erosion since Lake Bonneville receded, 20,000 years ago been going on at a rate comparable to that during the recent floods there would have been huge alluvial fans several miles in length in front of the canyons, whereas these deposits are exceedingly small. Sand, gravel, and rocks, including boulders up to 50 tons in weight, were deposited on rich farm lands, formerly lake bottom.

The Commission recommended as a means of flood prevention the regulation of grazing, fire prevention, reseeding and planting, and small check dams and other works, and until the watersheds have been revegetated, the construction of catchment basins at the mouths of the canyons.

SAWMILLING FOR 102 YEARS

On the banks of the Mississippi River at Natchez, Miss., is a sawmill plant that has been in continuous operation by the same family for over 102 years. It was established in 1828 by one Andrew Brown, a Scotchman by birth who had mined gold in Australia and finally reached the thriving river-port town of Natchez on the high bluffs of the Great Father of Waters. After some 37 years, in 1865 a son-in-law, B. F. Learned, entered the business and the word "company" was added to the name of Andrew Brown. Since 1871 the firm's business has been in the Learned name. The present head is Andrew Brown Learned, a grandson of the founder. - W. R. Mattoon

- - - - - - -

"The farmer is essentially an individualist and his method of thinking and acting cannot be changed quickly; therefore, his learning to act collectively must come through a process of education." - Federal Farm Board.

WHERE WERE THE OPEN FORESTS?

By L. A. Barrett, R. 5

"Old timers" in Northern California who claim there was no brush on the Mountains until the practice of woods burning by the Indians was stopped, will not get much comfort from a perusal of the diary of the travels of Jedediah S. Smith through that region over a century ago.

Writing from a point near the junction of the South Fork and main Trinity Rivers under date of May 10, 1828 the diary says -

> "The traveling was very bad, several very steep, rocky and brushy points of mountains to go up and down with our horses, xxx we lossed 15 on the way in the brush - 2 with loads."

By Wednesday, May 14th, the party was down in what is now the Hoopa Indian Reservation. The diary says-

> "The traveling amazingly bad; we decended one point of brushy and rocky mountain, where it took us about 6 hours to get the horses down."

For several days after this the party endeavored to cut across to the coast "but found their way impassable by reason of dense forests and underbrush and steep mountains," so finally wound up by following down the Trinity and Klamath to the sea, traveling mostly by canoe.

A PLANTATION THAT PAID

Twenty or twenty-five years ago plantations were started in Placer Creek near Wallace in the Coeur d'Alene National Forest. Wallace people have always been very forest minded and, to use a hackneyed term, very fire conscious, especially after the 1910 holocaust which burned part of that city. Only a couple of decades after the planting, and lo! and behold! the County Commissioners of Shoshone County establish in one of our plantations a picnic ground with tables, chairs, and other improvements, a cooperative enterprise which requires no cost by the Forest Service and only the interested attention and the proper point of view on the part of local Forest officers. The trees are now anywhere from fifteen to thirty feet high, the ground beneath them has become sodded, the place is very attractive and moreover it demonstrates in a distinct educational manner that trees will grow and planting is worth while. And what higher use for trees than to give pleasure! - M. H. Wolff, R. 1

BELIEVE IT OR NOT

The Southern Forest Experiment Station has now a section of cherry bark oak (Quercus rubra leucophylla) that had grown to a diameter of approximately 24 inches at a height of 2 feet above ground in approximately 20 years. - E. N. Munns

- - - - - - - -

Ranger Jack Pine says: "I notice in our 'figger dictionery', statistical bulletin #21, sometimes dubbed the 'brain book', that regions 3, 5, 6, 7 has issued permits for apiaries. This is the first wind we've had that they was runnin' bees on our forests."

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ×××THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
> Theodore Roosevelt

Vol. XV, No. 21 Washington, D. C . May 25, 1931.

OUT WEST WITH TOM WEST
1905 - 1931

By Thomas C. West, R. 5

More than twenty-five years ago I first heard of the "Forest Reserve Service." I decided in May, 1905, to apply for a job and hunted up the Supervisor of the Stanislaus Reserve in Sonora, California. His office was a small basement room of a residence, his file a cracker box, and his desk a roughly constructed table. No typewriter was in evidence, although there must have been one, for one of the principal pieces of office equipment was a letter press. There was no telephone. Being "mountain wise" I was appointed by him to the position of forest guard at a salary of $60 a month and outfitted with a few pencils, notebook, some paper, and a supply of monthly service reports. I was expected to pay my traveling expenses and furnish horses, horse feed, and tools. There were no headquarter improvements and no pastures.

Six months after I went on the job we saw our first Use Book. The covers were not far apart in those days and we could quote the inside word for word. We became true missionaries and executives. Up to the time the inspectors began to visit us, - I saw my first one in 1908, - we had to interpret and enforce the regulations and make decisions with very little or no advice and assistance, but we did the best we could. The progress made from 1905 to 1910 in molding the Service indicates that the youngsters of that period were - well, not the "hair pants wearing hill-billies" they are sometimes pictured.

As a District Ranger I handled a territory which was later divided into three districts. I had to use five head of horses and mules, and was constantly on the go, seldom stopping in the same place more than one night. Looking through one of my old diaries recently I found this note: "Have averaged 15 miles a day for past 90 days. No two nights following in the same place. Made 7 surveys of patented land, 6 special privilege (now special use) surveys and reports, examined and reported on 5 homestead entries, made 8 timber sales, marked 16 miles of boundary, counted 35,000 head of sheep and 13,000 head of cattle."

The pilgrimage made by one of the early Supervisors when he took his annual trip was quite an event. He would rig up an outfit consisting of a 4-horse team, a string of 4 or 5 pack animals and 7 or 8 saddle horses, load up his family consisting of a wife, two small children, a couple of nearly grown sons, two or three guests, and sally forth on a real trip. Practically all his time was devoted to wrangling his outfit through the country at not more than 25 miles a day, and the Forest he saw was usually within view of the roads traveled. The whole family enjoyed the trip but the Ranger usually had to replenish his supply of horse feed and grub after they had passed on. He visited my district once a year, and, if I remember correctly, I felt that was often enough.

Along about 1906 technically trained men started to show up. To some they were hopeless. They did not know how to mount a horse or how to handle it when they did get on. They were not woods wise and some required almost constant herding to keep them out of difficulty, - all of which had a tendency to make the old timers sour on them. They knew the theory but conditions were new to them. When they tried to transact business with a cowman or a lumberman there frequently were difficulties and occasionally startling results. Their usefulness on a fire was about nil, and a few required comforts never heard of by us before. The mixing of the two types developed improvements on both sides before long, and soon resulted in a better bunch of men all around.

"Doc" Sears and I started work under P. Y. (Bud) Lewis, and our first job consisted of clearing up a lot of down timber cut when someone decided that the place for a horse pasture was where an excellent stand of timber stood. The timber had been cut in 1904, and we "gnawed" it up in 1905. Then we built a 4-mile telephone line, probably one of the first built by the Forest Service in California, and hied our way over into Mono County to do battle with the nomad sheepmen.

At this time 200,000 to 250,000 sheep grazed slowly north through the Mojave Desert and Inyo County each spring and came into Mono County for the summer. Some fed-back in the fall, but most of them were trailed through Sonora Pass to the San Joaquin Valley and then fed slowly south, stubble being bought for them enroute, to Kern County, where a stop was made long enough to lamb before starting over the same route in the spring. These sheep were owned largely by sturdy foreigners whose principal aim was to get feed for their stock, regardless of ownership. They had, for years, been trespassing on the parks and reserves, and changed names or the ownership of the sheep on paper faster than Federal court injunctions - the principal weapon used against them - could be issued. They seemed to think that all the feed inside the reserves and parks was theirs if they could get it, and they did get much of it. There was some shooting, but when one case got as far as the court, two Rangers managed to be on the jury and - well, the defendant Ranger was turned loose.

My first brush was with three outfits on the head of Carson River. Two of us picked them up one evening and threw them into one band to facilitate handling. Then Bud Lewis and I marched sheep, herders, pack stock owners, dogs and all, straight west for twelve days and dumped them over the western reserve boundary, where they had to buy feed the balance of the season. Right after this job, I took the first Civil Service examination given for Rangers. The written test was held in Sonora and the field test - shooting, falling timber, packing, riding, cruising, etc. - at Cow Creek. We then returned to chase the elusive sheep herders on the east side, and elusive they were. It is surprising how clever they were in hiding their herds and covering their tracks.

Early in August three of us dropped into a canyon on the headwaters of West Walker River and just as dark was coming on we gathered up _______'s outfit. He was one of the worst offenders and had always eluded capture and had boasted that the Rangers could not get him. "Doc" and I took the herders and _______ into Stockton, then a five days' trip, swore out a complaint, and the case was made the test case in the Federal Court and was cited in the Use Book as proof that it was wrong to trespass in the "Forest Reserves."

When we were on this trip we got into an embarrassing position in Stockton. We were seeing the sights when we unexpectedly found ourselves in the midst of a number of _______'s countrymen and friends who had been showing their sympathy and loyalty to him by frequent trips to the bar. They were highly sympathetic and loyal when we showed up among them and they proceeded to settle matters right then and there. Fortunately for the Government the case was later tried in court, because as I remember there was a preponderance of evidence or something against us that night.

J. C. (Johnnie) Wells was the chief Ranger during our sheep campaign and his instructions were "get them if you can, but, boys, be careful." He rode a fine large bay horse, one of the best on the job, and wore spotted sealskin chaps - and with his snow white hair was a striking figure. But the chaps soon took the name "Wild cat skin breeches" and were discarded.

In the fall of 1905 I separated from the bunch and spent the winter searching the records of land claimed as alienated within the Forest. One outfit had over 30,000 acres beautifully colored on the tract books of the county records, which was all Government land. Others were not so ambitious. No doubt many damage claims for trespassing stock were paid on account of some of these colored lands, and many thousands of dollars were paid as rent for lands for which the lessee did not have the least shadow of a title.

In 1908 the Mono, which was then a part of the Stanislaus, was created, and I, by that time a Ranger, went to it as Deputy Supervisor. I remained on the Mono until 1912 when I transferred to the Stanislaus, where I remained until 1918, when I went to the Lassen as Supervisor and, later, in 1921, to the Klamath. From the Klamath I trekked to the Sequoia for about 4 years, and from there to the Regional Office in 1929.

(To be continued in June 1 issue)

PROGRESS OF THE GAME SURVEY
Part One

By Aldo Leopold, Sporting Arms and Ammunition Manufacturers' Institute
(Extract from the 1929 American Game Conference Report)

A. What is the Game Survey?

The Game Survey is an attempt to appraise, State by State, the existing prospects for the sustained production of game crops.

It is sponsored by the Game Restoration Committee of the Sporting Arms and Ammunition Manufacturers' Institute. It began July 1, 1928.

The following States have been covered: Michigan, Iowa, Minnesota, Ohio, Mississippi Illinois, Indiana, Wisconsin.

The survey has focused on upland game. Most of the information secured was obtained from conservation officials, sportsmen, and naturalists, whose hearty cooperation is gratefully acknowledged.

This report will deal only with the States of the north-central region. One south-central State has been covered, but conclusions on that region are withheld until a larger area has been examined.

B. What are the findings to date?

A multitude of problems has of course been encountered. To attempt to cover the findings on all would do justice to none. This summary is therefore confined to the three findings which seem to be outstanding in size and significance. These are:

I. All game crops in the agricultural belt are shrinking with the shrinkage of coverts.

II. Small game crops in the forest belt are lacking 6 years out of every 9 by reason of the game cycle.

III. There is a large waste in the planting of exotic species on unsuitable country.

I. The problem of covert restoration. Game coverts in the agricultural belt are shrinking by reason of clean farming and the absence of forestry practice in farm woodlots. Woodlot forestry is lagging because of the lessened dependence on wood fuel and wood posts.

The physical manifestations of the covert shrinkage are plain to anyone who can look out of a train window: woodlots are grazed clean of reproduction and undergrowth, there is less and less cover on fencerows and drainage channels, hedges are uprooted to make room for metal fences, swamps are increasingly drained or burned to make new pasture or tillage, and in many regions corn is no longer left standing over winter, but shocked or gathered in fall.

As a result there are over a hundred million acres which are increasingly devoid of game cover during the critical period of winter and early spring. The fact that there is plenty of cover and feed during the remainder of the year makes the situation all the more regrettable. It means that just a little help during just a part of the year would maintain the physical basis for a game crop.

All species are adversely affected, including quail, rabbits, prairie chickens, pheasants, Hungarian partridges, and squirrels. In some places the decline in game has just begun, but on the richest prairies it already approaches 100 per cent. The decline is taking place regardless of whether the game is over shot or not shot at all. There is no doubt whatever that devegetation is offsetting all other game conservation measures in the central cornbelt. The abundance of quail, for instance, is plainly proportional to the adequacy of coverts, and where coverts are lacking even complete closure has failed to restore quail.

These are sweeping assertions which I cannot prove within the confines of this brief paper, but they will hardly be questioned by those who know conditions on the ground.

The effects of devegetation extend into fields of conservation even more important than game. A part of the erosion which is undermining the fertility of farm lands and choking rivers and harbors with silt is due to the same devegetation of gullies, creek banks, and drainage channels which is undermining the game crop.

What is the remedy? Obviously we are dealing with an economic trend in the direction of more intensive farming, and this trend has behind it not only the tremendous force of economic law, but also the entire machinery for agricultural research and extension represented by the system of agricultural colleges.

It is idle to try to stop such a force by outright opposition, and insufficient to stop it only on areas publicly acquired for game purposes. Land values are so high that even the most ambitious land acquisition program can affect only a negligible proportion of the total area.

The only effective fundamental remedy is to encourage counterforces, of which at least two have considerable potential power, namely:

1. Offset the tendency to sacrifice game to other crops, by showing that game, like other crops, can return a revenue.

2. Develop a technique for raising game crops on farms without interference with farming, and develop a body of skilled men capable of applying such technique.

Direct State action in such matters as legislation can be made an aid to, but not a substitute for, these fundamental moves. Such direct action should include:

3. Specialized taxation of farm woodlots as well as commercial forests.

4. Specialized taxation of farm marshlands as well as commercial forests.

5. Public demonstration areas showing what combined agriculture and game management look like on the ground.

(Let me make it clear that these five things are not the only things that need doing. The problem is so vast that I am excluding, for brevity, all remedies which do not seem to have a sweep and universality approaching that of the cause.)

None of these remedies are being applied on any considerable scale except No. 3, which has made a promising start in Indiana. Action on the others is discussed in a subsequent caption. - From the 1929 American Game Conference Report

RECREATION LEADERS

By C. E. Randall, Washington

Organized recreation has become a highly specialized field to which the Forest Service undoubtedly will be compelled to given more and more attention as recreational use of the Forests continues to increase. Just what that field includes is indicated in an interesting announcement received by the Forest Service of the graduation on May 28 of 35 men and women from the National Recreation School in New York City.

The school has been conducted by the National Recreation Association for the past five years for the purpose of training recreation executives. Nearly all of the students are college graduates with experience in organized recreation. In a year's work at the National Recreation School they receive training in such lines as seasonal athletic sports, social recreation, small children's activities, music, dramatics, handicraft, group dancing, playground and community center work, and recreation organization and administration. The school curriculum is supplemented usually by part time field work.

Take a representative student of this year's class. His qualifications include some degree of proficiency in directing soccer, wrestling, basketball, football, and swimming; in conducting parties and picnics; in storytelling and song-leading; in coaching dramatics and stagecraft; in paper and wax work, art stone and coping saw work, and soap carving; in organizing leagues and tournaments; in developing playground programs, policies, and layouts.

Such activities probably will not be unknown to those National Forests which have municipal, boy and girl scout, or Y.M.C.A. camps among their special use permittees.

More recreation in forestry seems to be in prospect; we shall also want more forestry in recreation. The National Recreation Association has indicated its willingness to cooperate with the Forest Service in bringing forestry more prominently into organized recreation, and the Branch of PR is now furnishing material to the Association for its bulletins sent to hundreds of recreation leaders throughout the country. This material outlines suggested projects for recreation groups in forest study, tree planting, fire prevention, etc. The Association also is expected to aid in the distribution of Forest Service publications among recreation leaders.

AFTER SIXTY-TWO?

One does not need to go on a statistical jag to discover that wage and salary earners and small business enterprisers lose most of what they invest. One only needs to look about him to realize the truth of this proposition. If he attains a competence it will be in spite of his losses. If he likes the risk and adventure of matching his wits against economic hazards, well and good. If not, there are other ways by which the Government employee particularly, may provide for old age and the support of the family in the event of death.

Death insurance (commonly called life insurance) is familiar to all. High pressure salesmanship often induces Government employees to overburden themselves with insurance policies which will provide for the family if the income producer should die. Insurance covering sickness and accident is also familiar.

What is not so well known is that an annuity to supplement the Government employee's modest pension can be secured without excessive cost.

For example, suppose that at age 32 Ranger X has acquired a family and all the death insurance he feels he needs to provide for the family in the event of his death. He gets to thinking "it's going to be slim pickings with only that retirement pay when I retire at age 62." He looks about and takes out an annuity contract under which he pays $186 a year (or less, depending on the company) for 30 years. Beginning with age 62 he will draw $1200 annually as long as he lives, which, together with his Government retirement pay of $1,200 to $1,500 or more, will keep the wolf from the door.

Then at age 42 he has become a Supervisor or Assistant Regional Forester. One of the kids is in college and the other costs a lot for dresses and parties. But the last car is paid for and the cost of keeping up with the Joneses is not quite as heavy as it was. He has just had a $200 promotion and is feeling his economic oats.

After looking about, he and his wife vote unanimously for "safety first" and he takes out another annuity contract under which he pays $181 (or less) per annum for 20 years and then receives another $600 annually for life starting with age 62. $1200 plus $600 plus retirement pay of $1600 to $2000 wouldn't be so bad with the kids supporting themselves (maybe) and some other costs of living reduced.

YE EDITOR DISCOVERS

C. L. Forsling's new bulletin "A Study of the Influence of Herbaceous Plant Cover on Surface Run-Off and Soil Erosion in Relation to Grazing on the Wasatch Plateau in Utah," Technical Bulletin No. 220, brings out important facts. The data are based on a study of two comparable watersheds on the Wasatch Plateau in Utah for the last 15 years. One area was grazed conservatively each year and the vegetation was maintained at 40 per cent of a complete cover for the entire period. The other had been overgrazed so that the vegetative cover was reduced to 16 per cent at the beginning of the experiment, but increasing the density of vegetation on it from 16 to 40 per cent reduced erosion caused by melted snow by 57 per cent and erosion from summer rains by 54 per cent, an average erosion reduction of 55 per cent. The study indicated that summer rains failed to penetrate deeply and that melted snow was the only moisture which contributed to the underground supply. When the watershed had only a 16 per cent cover of vegetation, 4.6 per cent of the average annual surface run-off was caused by summer rain storms, yet this small run-off caused more than 84 per cent of the erosion.

Herbaceous vegetation plays an important part in the control of floods from sudden torrential storms, and maintaining a 40 per cent cover does not result in unjustifiable loss of water for irrigation. Natural revegetation and artificial reseeding were the methods used to restore the cover on the experimental area and there was complete exclusion of live stock.

- - - - - - -

The total number of recreational visitors to the National Forests during 1930 was 31,904,515, an increase of 146,284 over 1929. Campers last year numbered 1,980,736 as against 1,902,961 for 1929, this gain being mostly in the western Forests. Estimates for picnickers showed 3,272,682 for 1930 as against 3,056,456 for 1929, with increases both in the East and West. The total number of visitors traveling by motor increased from 28,786,516 in 1929 to

(TO BE INCLUDED WITH SERVICE BULLETIN WHEN DISTRIBUTED)

WEEKLY BULLETIN SUMMARY

Regional Fire Quotas and 1931 Record to May 10, 1931.

Box Scores

(From 10 day fire Reports)

	Gross Area Burned			Per cent Class C		No. of extra period B.C.Fires		No. of M. C. Fires	
Region	1925-29 Average	.1 of 1% Quota, Prorated	1931 to-date	1925-29 Average	1931 to-date	1925-29 Average	1931 to-date	1925-29 Average	1931 to-date
1	165,028	45,521	2,700	9.2	35		5	365	46
2	9,804	7,335	9,300	9.7	33		0	134	13
3	10,903	9,588	1,957	6.1	11		3	227	22
4	13,773	6,137	0	8.3	0		0	206	0
5	187,012	54,326	3,507	19.3	23		3	924	112
6	125,333	33,731	12,700	10.4	58		27	704	83
7	74,951	20,000	22,541	55.1	60		10	810	604
8	1,124	1,499	0	10.4	0		0	36	0
9	12,945	5,132	34,942	35.6	57		6	47	25
Total	600,873	183,269	87,647	17.0	51		54	3,453	905

Calendar Year F. F. Expenditures

Expenditures					
1930	Average Annual 1925 - 1929	Region	Total F. F. C.Y. 1931 to - date	For Emergency Guards 1931 C.Y. to - date	No. of F.F. Guards on duty
$327,460	$ 679,400	1	$ 9,500	0	2
32,925	9,457 (a)	2	973	0	0
15,386	36,673	3	3,312	204	0
37,666	30,815	4	0	0	0
235,183	459,572	5	10,000	619	13
407,668	495,238	6	30,000	2,000	30
191,861	54,673	7	35,568	1,942	5
847	3,645	8	0	0	0
75,947	37,675 (a)	9	20,700	470	0
$1,324,943	$1,807,148		$110,053	$5,235	50

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

Remarks:

We know the calendar year expenditure figures are wrong and would like to have each Region report the correct figures for the Jan. 1 - May 10 period so that future reports can be corrected.

29,541,607 last year. Hikers entering the Forest also increased from 202,272 to 220,853.

Camping in Michigan National Forests gained 60 per cent last year. There were gains for campers also in North Carolina, Pennsylvania, West Virginia, Oregon, California, and Arizona. Arizona was the banner State for gains in all types of National Forest recreation, with a million and a quarter more visitors than in 1929, a gain of about 80 per cent.

California still leads with the largest number of recreationists, more than 16 million entering the Forests last year. The White Mountain Forest led all the rest of the East, with 1,928,000 visitors.

- - - - - - - -

During the month of June representatives from a number of naturalist and outdoor life organizations, the National Park Service, and the Biological Survey will visit the Kaibab Forest for the purpose of studying the wild life and game conditions on that Forest. Forest Service officers from the Washington, Albuquerque, and Ogden offices will also participate in the study. A previous examination of the Kaibab Forest by a committee representing national societies interested in the preservation of wild life was made in 1924.

- - - - - - - -

Arthur F. Fischer, Director of Forestry at Manila, P. I., desires to secure seeds of the following species: Chamaecyparis lawsoniana, Cupressus arizonica, Cupressus sempervirens, Juniperus communis, Juniperus virginiana, Libocedrus decurrens, Picea orientalis, Pinus caribaea, Pinus edulis, Pinus ponderosa, Pinus (Mexican species), Pinus (Southern U. S. species), Thuja occidentalis.

- - - - - - - -

Paul D. Kelleter, formerly of the Forest Service, who has been critically ill with pleurisy for the past four weeks in Madison, Wisconsin, is reported (May 16) to be slightly improved. Several blood transfusions were necessary. Mr. Kelleter is now Director of Conservation for the State of Wisonsin..

FIRES IN THE SOUTH

By E. L. Demmon, Southern For. Exp. Sta.

It is customary in naval stores operations to rake around each chipped tree and burn off the accumulated litter and grasses annually. Many of these fires are uncontrolled and result in the unnecessary burning of a large additional acreage. These repeated burnings result in open stands through the gradual killing of established trees and through the prevention or destruction of forest reproduction. There is reason to believe that burning reduces the yield of gum and is therefore detrimental instead of beneficial from this standpoint. Studies have recently been begun by the Southern Station to settle in an authoritative way the relationship between fires and naval stores production. These investigations will involve the direct and indirect effect of fires upon the growth of the tree as reflected upon the fertility and moisture-holding capacity of the soil, their effect upon the formation and flow of gum, and, finally, upon the total naval stores yields that may be obtained.

Adequate protection on fair-sized protective units in the naval stores region costs around 4¢ per acre. Here is an opportunity for an immediate saving in going from a raking and burning policy to a complete fire protection system. Some fires can not be prevented but adequate system of protection will keep the area burned to a minimum. For the southern pine region as a whole, 27 per cent of the forest area was under fire protection in 1929. During that year, an average of 3 per cent of the protected area burned over although in many States the percentage was much smaller. Statistics show that on the 75 per cent of southern forest land which was unprotected, 26 per cent burned over in 1929.

MINERALS IN PASTURE

The Lancet for March 14 says: "For some years an investigation into the mineral content of natural pastures has been carried on in Scotland and in Kenya under the auspices of the Economic Advisory Council. The committee includes Major Walter Elliott, chairman, Sir Robert Greig, Secretary of the Department of Agriculture for Scotland, and Dr. J. B. Orr, Director of the Rowett Research Institute, Aberdeen. The latest report contains valuable information on the effect of fertilizers on the soil and indirectly on the grazing animals. The results of the feeding experiments are perhaps the most striking. In the districts where pastures were deficient in certain minerals, the provision of these to the grazing animals was followed by an increase of about 30 per cent in the yield of dairy cows, about 10 per cent in the rate of growth of lambs, and about 10 per cent in the weight of the fleece of sheep. In the districts where the pastures were rich in minerals, supplements of this kind had no definite effect on the milk yield or rate of growth of lambs. In one of the districts, where the investigation had for its object the discovery of a method of preventing a disease, 'naturuitis,' believed to be due to some deficiency in the pasture, it was found that the disease was prevented if the animals were allowed access to a mixture of common salt and an iron salt. In the districts examined, the deficiency was mainly in sodium and to a less extent in chlorine. In one of the districts the pasture, apart from deficiency in sodium and chlorine, was as rich as good British pasture. In the other three districts the pastures were deficient in all mineral nutrients and also in protein, the greatest deficiency being in phosphorus. In one of the districts the deficiency of phosphorus was as great as they found in certain areas in South Africa where it is the cause of disease in cattle. The application of different kinds of fertilizers to the pastures in the most deficient areas increased the yield of pasture from 25 per cent, where the common salt only was used, to 400 per cent where nitrogen and phosphates were used. Where phosphates were used the pasture remaine green during the drought for a longer period than the surrounding untreated pasture. Grazin animals showed a marked preference for the parts treated with fertilizers..." Clipped from Dept. of Agri. "Daily Digest".

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 22 Washington, D. C. June 1, 1931.

LIGHTNING - THE IDIOSYNCRATIC

By Perkins Coville, Washington

In the past year a questionnaire was sent to the National Forests to obtain data on the damage to telephone circuits, lookouts, and other property, and the injury to personnel, that results from lightning strikes. In addition to the more pertinent data which the questionnaire brought out were numerous examples of the peculiar action of lightning.

No one knows very much about what lightning may be expected to do in a given case. To the layman, trying to arrange in his mind what few facts he knows about lightning would first occur the old bromide that "lightning never strikes twice in the same place" - decidedly an untruth as many a lookout knows. Most people have the misconception that lightning will always follow a metal conductor to the ground in preference to following some ungrounded circuit or some non-metallic substance; that lightning will always follow a consistently downward course; that a lightning strike always makes a loud report.

From the Coronado and the Nezperce come two reports stating that lightning burned out or fused wires inside their insulation and left the insulation practically intact. In addition on the Coronado, the same strike that damaged the insulated wire burned out the arrester, broke 2 porcelain tubes, set fire to the observation tower, burned out the ground wire, and jumped an open 3" switch in a tent where the lookout was asleep, severely shocking the man and setting fire to the pine needles on the ground within the tent.

Numerous reports state that phone lines have been fused by lightning strikes. It is apparently rather common for lightning to burn up a wire, as much as 1,000 feet of it on occasion, and deposit it on the ground in sections 6 or 8 inches in length. Lightning discharges are supposed to be discharges of direct current but the fusing of wire into short lengths seems to indicate a type of surge or a wave length of very high frequency.

A lightning strike on a line frequently shatters a telephone pole or two. One report stated that lightning shattered 15 poles in succession. On the Sheep Creek district of the Jefferson, however, a strike broke 3 poles in succession, passed one pole without injuring it, and splintered the next two.

It is interesting to know that the "cage" system of lightning protection for lookouts, per se, (leaving the telephone installation out of consideration) has proven generally satisfactory. A number of installations have survived direct hits. The Deer Mountain station on the Bitterroot is thought to have been subject to a direct hit, with no damage to the cage, building, or lookout. The cage on Salmon Mountain on the Nezperce was burned off the lookout cabin in a severe storm but protected the building. On the Selway a cage, the installation of which had not been completed, was damaged by lightning. Three or four inches of a 5/8" copper drain rod were melted, and a corner wire near the eaves nearly burned in two. Two corners of the cage had not yet been grounded, however.

On the St. Joe in 1924 lightning struck a phone line 100 feet below a lookout. Eight hundred feet of line were burned up. The charge blew the door off the telephone, destroyed the protection (60E), broke all the glass in the lookout, cracked the building's framework, and generally "mussed up" the inside of the cabin. The lookout was knocked out for two hours.

On the Eldorado one line wire was dead-ended to the wooden roof of a barn. A strike on the line partially passed to the ground through the barn timbers without damaging them appreciably. A few goats that were on the ground floor of the barn were killed, but some 25 others standing with them were uninjured. The ground wire of the telephone in the house nearby passed close to a damp wooden sink. The lightning "slivered" the sink and chiseled out some damp wood where the sink drain led outdoors.

At the Pilot Peak lookout on the La Porte district of the Plumas, in July, 1917, the two telephone lead-ins of insulated wire passed along the under side of the cabin, passed through the floor and up to a map table. A heavy strike on the line followed these leads to the table top, followed down the barrel of a .22 calibre rifle that was lying there, and blew the rifle stock through the glass in a door. The lightning then passed down through the table, splitting a 2" x 4", and out through the floor.

From the Portland region it is reported that a heavy strike at a lookout came through the protection and followed a guy cable to its anchorage where "about one ton of solid rock was torn loose and a fair-sized tree twisted out of the rock." The lookout was "at home" and was not seriously hurt though his hair stood on end for 10 days (there is corroborative evidence on this point!)

From the Whitman it is reported that on unprotected (uncaged?) lookouts and cabins where lightning damage has occurred, there have been no direct hits, the lightning so far always coming in over the telephone line.

One report suggests the importance of the best and most thorough types of installation for phones and protection, according to specifications for the region. - "Oftentimes rangers and others do not seem to realize (the importance of) this, evidently thinking that since some old hay-wire installation at some place has functioned for a good many years, it will continue to do so."

PROGRESS OF THE GAME SURVEY

Part Two

By Aldo Leopold, Sporting Arms and Ammunition Manufacturers' Institute
(Extract from the 1929 American Game Conference Report)

II. The problem of game cycles. It is common knowledge that:

1. Ruffed grouse and snowshoe rabbits fluctuate violently in abundance. The length of the cycle has been given as from 7 to 10 years. The rabbit cycle has been traced back for many periods, and the grouse cycle for several periods.

2. Sick, dead, and parasitized individuals occur during the period of mortality. The Grouse Investigation is identifying many of these parasites in ruffed grouse.

3. The decline in ruffed grouse is often associated with goshawk migrations, and some

think is caused by them, and by other predators deprived of their usual supply of rabbits.

4. Depressions in ruffed grouse are parallel but not identical in point of time as between States.

5. Other species, like ptarmigan, are affected by the grouse cycle.

Since these fluctuations or cycles seemed to basically affect the future, a special effort was made during the Wisconsin Survey to learn more about them. One hundred eighteen selected observers were questioned as to their recollections or records of good and poor years in all kinds of upland game, and in addition many records were dug up from publications. These mass data were then graphed on a chart.

Field notes were also compiled on many special questions. For instance: What is the lag between localities within a given State? What symptoms accompany mortality?

From these was built a graphic picture, partly hypothetical, of the game cycle and its characteristics.

The following indications may be drawn from this evidence:

6. Prairie chickens are subject to the ruffed grouse cycle, but quail, Hungarians, and pheasants probably not.

7. Ruffed grouse have been cyclic at least since the 1880's and prairie chickens since the 1890's.

8. The cycle shows a definite periodicity of about 9 years. The length of this period has not changed since the 80's, although the degree of decimation, and the per cent of territory affected may have increased. The evidence necessary to trace these aspects has disappeared.

9. No territory is exempt from the cycle, but the degree of decimation decreases southward. Heavy decimation is characteristic of large continuous ranges; moderate decimation of discontinuous range and adverse environments.

10. In ruffed grouse and snowshoes the maximum decimation runs as high as 5 per cent and in prairie chickens as high as 75 per cent.

11. The incidence of the cycle as between localities within a single county may lag as much as it does between counties, between States, or between continental regions. The last depression hit 2 years ahead of the "normal" (or most frequent) date in some localities, but all localities were hit within one year after. In short, there is a "lag" of three years between localities at both ends of the nine-year period.

12. The incidence of the cycle as between species shows no clear evidence of any fixed order. Of 15 cases ruffed grouse fell off first in 8, prairie chickens first in 5. Rabbits were never first. The earliest species to fall off is usually only one year ahead of the last. The order of recovery seems to be the same as the order of mortality.

13. Decimation in any one species is seldom or never accomplished within a single year. The year of heaviest decimation is always preceded and usually followed by at least one year of lighter loss. The succeeding recovery requires a similar length of time.

14. Decimation, as indicated by sick, dead, or heavily parasitized birds, may take place at any season of the year. Sick or dead birds are found mostly during the year of heaviest loss, but heavily parasitized birds seem to be found at least a year before and a year after.

15. The year of heaviest decimation in ruffed grouse at the extremity of the Door County Peninsula shows no lag as compared with the adjacent mainland.

16. The cottontail at its northern boundary is sometimes decimated as severely as the snowshoe. Wisconsin showed no widespread cottontail decimation, however, except in the southwest quarter, where there was only 10 to 50 per cent of a normal crop in 1928. This is a larger and more uniform area of cottontail shortage than any yet found elsehwere in the cornbelt.

17. Goshawk appearances during the last depression were entirely insufficient to constitute its cuase.

From the standpoint of management, these indications mean that:

18. An abundance of all grouse may be expected to prevail throughout the State only during about 3 years out of every 9, and these 3 years will be consecutive with 6 lean years intervening. A general open season will be justified only about one-third of the time. Local abundance, possibly only of one species, may be expected for a year or two at each end of the lean period. Adjustment of the State's management policy to this extremely variable situation obviously demands not only the delegation of full regulatory powers to the Conservation Commission, but also the prosecution of a skillful and continuous game survey to keep track of local situation.

19. The maintenance of cyclic abundance (as distinguished from continuous scarcity) is dependent on the conservation of seed stock and the maintenance of favorable environments.

Let me emphasize that these are indications, not proven conclusions. The object has been not to perform research, but to compile and interpret the experience of sportsmen, in the hope that it would help game research agencies attack this problem effectively, to the end of discovering the cause of these cycles.

When the cause is known, controls may become possible. Management cannot doctor sick grouse, but the virulence of the sickness may be caused by deranged environments, and these are not beyond human control. In any event, intelligent management demands that we learn what causes this cycle, and how.

III. The problem of planting exotics. The Game Survey shows clearly that there are certain regions where natural conditions do not favor the restoration of native game. In east central Wisconsin, for instance, there are many counties too far north and too near the lake for quail, too devoid of timber for ruffed grouse, and with insufficient large marshes for prairie chickens. In this region there is a clear case for exotics.

Much of northern Iowa and southern Minnesota are in like case.

Regardless, therefore, of personal views on the relative desirability of native and exotic species, it is important to know how to plant exotics effectively, because there are at least some places where exotics are needed.

That game management does not yet know how to plant exotics effectively is indicated by the high proportion of failures in pheasants and especially Hungarians in various parts of the region covered.

Here is a map of Indiana which illustrates what I mean. A careful study of this map will show:

1. That plantings were continued on a large scale for enough years to iron out seasonal differences between seasons, and differences in the condition of the stock when planted.

2. The failures are all bunched and the successes are all bunched.

3. The established range shows a perfectly clean edge.

A careful examination of the country reveals no visible differences between the areas which failed and the areas which succeeded.

Only one conclusion can be drawn from this, and that is that some invisible or inconspicuous factor determines the survival of the planted birds.

Game management must find that factor, or score such a heavy percentage of failures that initiative will be dampened.

BELIEVE IT OR NOT!

We have heard much of the great value of the Lake States jack pine, of its marvelous growth and utility, and of its great value. Now we know how valuable it is, for an Experiment

Station report considers porcupine damage of little value as the loss suffered is negligible, "not more than $4 or $5 stumpage per tree." The aspen, which we have been repeatedly assured is a marvelous tree is not considered much of a dish by the porkies, who prefer pine to aspen. Somehow we feel that in turning up his nose at the beautiful poplar the quill-shooter expresses our private opinion of the tree - E.N.M.

OUT WEST WITH TOM WEST

1905 - 1931

By Thomas C. West, R. 5

(Cont'd. from May 25 issue)

My first real baptism of fire was on the Plumas in 1910. There were more fires than there were men to handle them that summer, so I went and took charge of one that had been running loose for several days. I spent a little over $1,350 in stopping it, and when I added up the costs I expected it would be my last job, - fire or otherwise - with the Forest Service.

I later took part in the Standard fire on the Stanislaus in 1914, the Manzanita Chute fire on the Lassen in 1918, the Hat Creek "bust" in 1920 - all of which were big ones in their day - as well as the usual crop of smaller fires. In those days men went up against a fire and stayed there until it was out or safe to leave; 40, 50, and 60 hour shifts were not unusual on big fires, and always at the pace that kills. Our food supply was usually limited and we frequently cooked our own, which meant that we sometimes did not fare so well. The improved equipment, and the improved methods of attack and follow-up of men, equipment, and supplies have made fire fighting much easier, and the job, hard as it is at present, is not the man-killer it was a few years ago.

My first timber sale experience was on the Stanislaus in 1912. Some of the penalty scaling for damage was not in keeping with the present day practices, but we read the contracts and imposed penalties as we understood them. Many of the areas cut over about that time have been cut over under later sales, and if we had pulled the stumps there might have been little evidence of the former sales. On one sale we included as dead and down merchantable stuff a lot of sugar pine which had been felled end to end several years before to form a drift fence. The best trees had been chosen for the fence because of their size and length. Many of them scaled over 12,000 feet and one scaled over 25,000 feet B.M. Sugar pine was cheap in those days and barbed wire cost money.

My natural inclination was to specialize in grazing, which brought me in contact with forage and poisonous plants. I experimented in eradication of some of the latter in 1912 and, as a result, much of my time while on the Stanislaus was devoted to larkspur eradication on a large scale. During the war I worked with the Feed Commission in connection with grazing the parks of California.

We used horses until about 1917, when nearly three out of seven men on the job had automobiles; then the change became fairly rapid, and it was not long before most of us had Fords.

And such horses! When the history of the Service is finally written too much can not be said for the saddle horses we used during what may be termed their last stand. I do not refer to the horses available for hire since the growth of automobiles, nor perhaps the horses the Ranger had for visiting Forest officers, but I have in mind the favorite horses owned by the old time Rangers and used by them. They were bred and selected for saddle horses and represented the peak quality of that type of animal. They were fast, dependable, had endurance, and above all were, with few exceptions, faithful. It was a regular occurrence to camp them on the open range, frequently in a different place every night, without fear of losing them, even though, as frequently was the case, the feed had been "skinned" by sheep. Long, hard rides were also frequently made under trying circumstances. One of the boys rode 115 miles with but a short rest, and 70 to 75 miles was not unusual for trips in emergencies, and the horses were always ready to go the next day. We paid a high price for them considering the price of horses in those days, but the best obtainable was what each man wanted and usually got. I paid $225 for one horse even when horses were cheap. The price was not considered seriously when a man bought a horse he really had made up his mind to get.

All in all, the 25 years have been very pleasantly spent, with the usual ups and downs one may expect. As I finish this article I have a longing for the old bunch and for the open spaces, and I wish we could all go through the same experiences together again. We worked without thought of plans, work sheets, objectives, etc., but with something definitely fixed in our minds to accomplish and the determination to accomplish it, mental work plans and objectives just the same. "Doc" Sears and I are the only ones of our old Stanislaus bunch now on the job in the Region, but with an occasional overhauling it is hoped that we may each add a chapter to the records 25 years hence.

YE EDITOR DISCOVERS

As a means of relieving the serious depression confronting the lumber industry at the present time, the President has approved a policy of temporarily restricting sales of timber from the National Forests involving amounts exceeding $500 in value.

On May 19 the Forester issued to all the Regions the following instructions, to become effective immediately:

No sales of National Forest timber will be made during the present economic situation where the value of the timber is in excess of $500, except under the following three enumerated conditions:

(1) To supply the needs of already existing sawmills which are dependent upon the National Forests for their raw material and where such raw material cannot be obtained elsewhere.

(2) To furnish domestic paper mills with raw material needed to supply the domestic market with newsprint and other wood pulp products.

(3) To dispose of wind-thrown, fire-damaged or fire-killed, and bug-infested timber.

The foregoing policy is largely self-explanatory. It will be seen that no restriction is placed upon the small sales amounting to less than $500, which usually involve special material directly obtainable from the Forest and consumed locally. During the calendar year 1929, 13,560 sales from the National Forests were for amounts less than $500. The three classes of sales which may be made in excess of $500 are obviously exceptions designed to avoid unnecessary unemployment or unnecessary hazard to the forests.

- - - - - - - -

Fellowships for advanced training in forestry have just been awarded by the Charles Lathrop Pack Forest Education Board to seven foresters, six American and one Canadian. The successful candidates, who were selected from about eighty applicants, and the course of study each will pursue are:

Caird, Ralph, graduate student, University of Michigan - tree physiology and general forestry
Fortin, John Broughton, senior, New York State College of forestry - silviculture
Frank, Bernard, Forest Service, on leave at University of Wisconsin - land utilization and economics

Ineson, Frank Avery, student, Forest Academy, Hann, Munden, Germany - forest management

Lutz, Harold John, Assistant Professor of Forestry, Pennsylvania State College - ecology

Wagener, Willis Westlake, Forest Pathologist, Dept. of Agri., San Francisco - forest pathology

Webb, Horace Peterson, Consulting Forest Engineer, Loggieville, New Brunswick, Canada - logging practices

- - - - - - - - -

A range research conference, sponsored by the Ecological Society of America, will be held at the Great Basin Branch of the Intermountain Forest and Range Experiment Station, Ephraim, Utah, August 17-20. The program will include field discussions and demonstrations, as well as more formal discussions. Particular attention will be given to methods of studying such subjects as plant population and its change, forage production and yield, and plant development for seasonal use and other purposes.

C. L. Forsling, Director of the Intermountain Station, is chairman of the committee on arrangements.

- - - - - - - - -

Dogs may no longer chase deer in the Pisgah National Game Reserve in western North Carolina, Secretary Hyde having signed an order that all dogs be kept on leash and that any dog running at large in the Reserve be removed or captured. Dogs have chased and sometimes killed deer in the Reserve until the constant disturbance of wild life has become inimical to the purpose for which the Reserve was created. It is also found that hunters have sent in dogs to chase deer out of the Reserve to places where they may be legally shot.

- - - - - - - - -

V. L. Harper of the Southern Forest Experiment Station, who has been in Washington for several months, left with a group of specialists from the Bureau of Chemistry and Soils for an extended trip through the southeastern States to assist in the location of a field laboratory to be established by the Bureau of Chemistry and Soils. This organization is looking for aplace where it will be possible to obtain the resins from slash and longleaf pines for distilling in large experimental stills. They are anxious to find a locality where they can get unworked timber for turpentining and where it will be possible to correlate investigative work by the Southern Station with that which they are proposing. Under the plan of the Bureau these large experimental stills will be erected to work out in commercial sized tests the best methods of distillation to improve yields of turpentine and to increase the clarity of the rosin. A number of sites in Georgia, Florida, and Alabama are being considered.

- - - - - - - - -

H. T. Gisborne of the Northern Rocky Mountain Forest Experiment Station and L. G. Hornby of the Regional 1 office are in Washington putting through the big tabulating equipment the fire records obtained in Region 1. This is part of the regional and station analysis of the fire and transportation problem and is designed to get at such factors as the relation of fire to fuels and cover types and the relation of fires to origin. One thing that is expected to come out of the study is a better appreciation of the organization necessary to catch fires while small and ways in which the organization can be made more effective. It is planned to have the tabulation work completed by the first of June so that Gisborne and Hornby can participate in the fire conference to be held on the experimental fire forest at Mt. Shasta, California.

ANOTHER NORTHERN PACIFIC JOB

As everybody knows, the Northern Pacific Railroad Company claims the right to select approximately 2,600,000 acres of National Forest lands in satisfaction of alleged deficiencies in its land grant. Congress by the Act of June 25, 1929, has definitely prohibited the selection of these lands but has provided that the railroad company shall be compensated by cash payment for such lands, if it is found by legal action that the railroad company actually was entitled to select them.

Suit to determine the actual equities of the company has been initiated in the United States Court at Spokane, Washington. In the event the court finds that the Northern Pacific was entitled to more land than it actually received, it will fix a cash value for the land the N. P. did not get upon such evidence as may be found legally admissible and satisfactorily established. The Government and the Northern Pacific therefore must be prepared as a part of the legal proceedings to establish the fair value of the 2,600,000 acres of land which have been retained by the Government.

It probably would cost a quarter million dollars and require two or three years' time to cruise and appraise these lands and establish their values in court. The expense of the railroad company would probably be as great. In recognition of this fact, both parties have tentatively agreed to attempt to fix the value of the land by agreement based on the best available data and judgment. If successful, the agreements will be incorporated in stipulations filed as a part of the suit, thus obviating the need for the introduction of testimony to fix the value of the property involved. For years the railroad has accumulated a great deal of information regarding these or comparable lands, and, since they now have a National Forest status, the Forest Service likewise, has accumulated a great deal of data in the form of land classification reports, timber management plans, range management plans, fire reports and studies, and other like examinations. The usability of these data is now about to receive a severe test.

Each party by consultation of its own records and conferences with its own members will tentatively arrive at average values per acre for the lands in each class of indemnity limit in each National Forest. These values will then be compared, and where agreement can be reached will be incorporated in stipulations. Where agreement cannot be reached, the conferences will disclose the points of difference and the further field work or data required for their adjustment, toward which steps can then be taken. Where agreement proves to be impossible the matter will be left to the court for adjudication, with both sides introducing testimony in support of their views.

The Forester has designated Assistant Forester Kneipp to supervise the conduct of this work and to represent the Forest Service in the negotiations. This assignment will sadly disrupt what had promised to be a very interesting schedule of field inspection and may perhaps preclude any field work by the Branch of Lands except that relating to the N. P. case.

STATES SPENT $7,000,000 FOR FORESTRY IN 1930

Forty-seven States and Territories are now extending financial support to State forestry, most of them having State Foresters and participating in fire control, extension, reforestation or other related activities. State forestry appropriations for the last year reached a total of $7,297,935. Of this amount, $2,555,329 was appropriated for fire protection, $1,106,711 was used for growing tree planting stock and for reforestation, and more than $2,308,000 was appropriated for purchase, maintenance, and improvement of State forest lands. Other appropriations were used to fight pests and tree diseases, and for education research, and extension work.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

VOL. XV No.23 Washington , D. C. June 8, 1931.

HOW THE PLANTING OF TREES MADE "THE ISLAND OF NIGHTINGALES"

(Extract from "The Americanization of Edward Bok")

Along an island in the North Sea, five miles from the Dutch Coast, stretches a dangerous ledge of rocks that has proved the graveyard of many a vessel sailing that turbulent sea. On this island once lived a group of men who, as each vessel was wrecked, looted the vessel and murdered those of the crew who reached shore. The government of the Netherlands decided to exterminate the island pirates, and for the job King William selected a young lawyer at The Hague.

"I want you to clean up that island," was the royal order. It was a formidable job for a young man of twenty-odd years. By royal proclamation he was made mayor of the island, and within a year, a court of law being established, the young attorney was appointed judge; and in that dual capacity he "cleaned up" the island.

The young man now decided to settle on the island, and began to look around for a home. It was a grim place, barren of tree or living green of any kind; it was as if a man had been exiled to Siberia. Still, argued the young mayor, an ugly place is ugly only because it is not beautiful. And beautiful he determined this island should be.

One day the young mayor-judge called together his council. "We must have trees," he said; "we can make this island a spot of beauty if we will!" But the practical sea-faring men demurred; the little money they had was needed for matters far more urgent than trees.

"Very well," was the mayor's decision - and little they guessed what the words were destined to mean - "I will do it myself." And that year he planted one hundred trees, the first the island had ever seen.

"Too cold," said the islanders; "the severe north winds and storms will kill them all."

"Then I will plant more," said the unperturbed mayor. And for the fifty years that he lived on the island he did so. He planted trees each year; and, moreover, he had deeded to the island government land which he turned into public squares and parks, and where each spring he set out shrubs and plants.

Moistened by the salt mist the trees did not wither, but grew prodigiously. In all that expanse of turbulent sea - and only those who have seen the North Sea in a storm know how turbulent it can be - there was not a foot of ground on which the birds, storm-driven across the water-waste, could rest in their flight. Hundreds of dead birds often covered the surface of the sea. Then one day the trees had grown tall enough to look over the sea, and, spent and driven, the first birds came and rested in their leafy shelter. And others came and found protection, and gave their gratitude vent in song. Within a few years so many birds had discovered the trees in this new island home that they attracted the attention not only of the native islanders but also of the people on the shore five miles distant, and the island became famous as the home of the rarest and most beautiful birds. So grateful were the birds for their restingplace that they chose one end of the island as a special spot for the laying of their eggs and the raising of their young, and they fairly peopled it. It was not long before ornithologists from various parts of the world came to "Eggland," as the farthermost point of the island came to be known, to see the marvellous sight, not of thousands but of hundreds of thousands of bird-eggs.

A pair of storm-driven nightingales had now found the island and mated there; their wonderful notes thrilled even the souls of the natives; and as dusk fell upon the seabound strip of land the women and children would come to "the square" and listen to the evening notes of the birds of golden song. The two nightingales soon grew into a colony, and within a few years so rich was the island in its nightingales that over to the Dutch coast and throughout the land and into other countries spread the fame of "The Island of Nightingales."

Meantime, the young mayor-judge, grown to manhood, had kept on planting trees each year, setting out his shrubbery and plants, until their verdure now beautifully shaded the quaint, narrow lanes, and transformed into cool wooded roads what once had been only barren sun-baked wastes. Artists began to hear of the place and brought their canvases, and on the walls of hundreds of homes throughout the world hang today bits of the beautiful lanes and wooded spots of "The Island of Nightingales." The American artist William M. Chase took his pupils there almost annually. "In all the world today," he declared to his students, as they exclaimed at the natural cool restfulness of the island, "there is no more beautiful place."

The trees are now majestic in their height of forty or more feet, for it is nearly a hundred years since the young attorney went to the island and planted the first tree; today the churchyard where he lies is a bower of cool green, with the trees that he planted dropping their moisture on the lichen-covered stone on his grave.

TWENTY FIVE YEARS OF FORESTRY

By W. B. Kelso, Pike

While it is characteristic of the men of the Service to keep looking ahead and planning for the future, occasionally we old timers allow our thoughts to drift back for a quarter of a century to the pioneer days of the Service, and, in doing so, one naturally makes comparison of conditions as they existed then and as they are today. And in making this comparison, I believe the most outstanding thought is "How little we knew about the job we were taking on."

I remember back in January 1906 when Smith Riley called me on the 'phone and told me that I had passed the Civil Service examination and that I was to be assigned to the territory surrounding Idaho Springs, Central City, Georgetown, and a number of other small mining towns - now known as the Clear Creek District - and advised me to report to the Supervisor for immediate duty. The office at that time was in the old Barclay Block in Denver, and the Supervisor, a holdover from the old "political days," was, I was soon to learn, a man who knew a lot more about politics than he did about forestry. However, I didn't allow a little thing like that to dampen my enthusiasm or make me any the less anxious to get on the job.

After getting established on the district, my first job consisted of closing down a number of small timber operators and filing innocent trespass charges against them. It must be remembered that this was one of the oldest mining sections in the State, and that prior

"BOX SCORE"

REGIONAL FIRE QUOTAS AND 1931 RECORD TO MAY 31, 1931.

	Area burned over N.F. & Private inside .1 of 1%:			Per Cent Class C		No. of extra period B.C. fires	No. of M.C. Fires	
Region	1925-29 Average	Quota Prorated	1931 to-date	1925-29 Average	1931 to-date	1931 to-date	1925-29 Average	1931 to-date
1	165,028	45,521	5,100	9.2	17	-	365	85
2	9,804	7,335	9,700	9.7	25	0	134	22
3	10,903	9,588	1,485	6.1	14	7	227	58
4	13,773	6,137	0	8.3	0	0	206	0
5	187,012	54,326	2,621	19.3	16	19	924	155
6	125,333	33,731	9,500	10.4	32	28	704	133
7	74,951	20,000	24,000	55.1	59	12	810	653
8	1,124	1,499	1	10.4	0	0	36	1
9	12,945	5,132	41,632	35.6	65	10	47	36
Total	600,873	183,269	94,039	17.0	41	76	3,453	1,143

CALENDAR YEAR F.F. EXPENDITURES

Expenditures					
1930	Average Annual 1925-1929	Region	Total F.F. C.Y. 1931 to-date	For Emergency Gds. 1931 C.Y. to-date	No. of F.F. Guards on duty
$ 327,460	$ 679,400	1	$ 56,500	$ 1,417	39
32,925	9,457(a)	2	1,193	0	1
15,386	36,673	3	4,664	213	0
37,666	30,815	4	60	0	0
235,183	459,572	5	20,110	4,372	41
407,668	495,238	6	49,000	4,900	76
191,861	54,673	7	34,652	2,030	2
847	3,645	8	0	0	0
75,947	37,675(a)	9	27,446	594	1
$1,324,943	$1,807,148		$193,625	13,526	160

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

Remarks:

We would like to have corrected calendar year expenditure figures from Regions 1, 6 and 9.

to this time it had always been the practice of the residents to cut timber where they pleased, so long as it was to be used for mining and domestic purposes. Hence, any attempt on the part of the Government to change or regulate this practice was considered an infringement on their rights. Added to this, the senior U.S. Senator claimed Central City as his home. While no doubt a very fine man, he was always opposed to the policies of the Forest Service; so, all in all, a Forest Ranger was about as welcome in a community of this kind as a bad case of smallpox. However, with the advent of the road building program and other beneficial measures sponsored by the Forest Service, I am glad to say there has been an entire change of attitude.

Another thing that impressed me during this early period was what appeared to be the utter hopelessness of ever being able to practice forestry in a country that had been practically denuded of its forest growth. During the early mining operations an enormous amount of timber was consumed for various purposes. In addition, practically the whole country for miles around had been burned over since the advent of the white man, giving it the appearance of a barren waste, so much so that the inexperienced forester was afraid to cut a tree for fear that another would never grow. But mother nature works wonders. In a quarter of a century, those same areas have lost a lot of their barren appearance and there is little doubt but that there are as many trees growing on the Clear Creek District today as there were when it was first discovered and settled by the white man. So what appeared then as a hopeless task is now a reasonably simple problem, that of keeping out the fire and regulating the rate of cutting so as to insure a sustained yield of merchantable timber for local use.

It has been truly said that pioneering in any line is hard work, but, in reviewing the past, I have no regrets for having entered the Service when I did. To the out-of-doors-man the life of the Ranger is always interesting. Then there are one's associates. As a whole, all of the men I have met in the Service, "fellow officers" seemed enthused with the idea of accomplishment, and these friendships gained during my twenty-five years in the Service are among my most treasured memories.

PRESIDENT'S TIMBER CONSERVATION BOARD ASKED TO CONSIDER SEVEN VITAL SUBJECTS

The American Lumber industry has agreed that there are seven fundamental topics to which President Hoover's recently appointed Timber Conservation Board should devote its immediate attention. These seven points were outlined in a report submitted at the recent annual meeting of the National Lumber Manufacturers Association at Chicago, by the forestry committee of which A. W. Laird, manager of the Potlatch Lumber Company, Potlatch, Idaho, is chairman. The committee suggested that consideration of these seven points take precedence in the activities of the Timber Conservation Board. The seven points follow:

1. Timber Supply: Such revision as is promptly possible for figures upon quantity, character, distribution, ownership and depletion rate of the nation's commercially valuable timber, also upon future contribution through new growth.

2. The Overproduction Problem: This, from its cause to its effect, must be considered as probably the chief economic evil, calling for specific suggestions for alleviation.

3. Administration of Public Timber: This greatest single ownership, immune from many burdens, may either compete with, or be used to foster, any policies desirable for private enterprise. Its own policy must become consistent and understood.

4. Forest Taxation. While not directly a federal function, this is so prominent an economic factor that it seems a necessary consideration if only to bring out more exact knowledge of how important its influence is.

5. Ultimate Forest Ownership: A basic consideration when the future is considered, in a sense even more so than timber supply because the latter is diminishing and land is not, is economic adjustment of land ownership. Most problems involve the practicability of continued private ownership, perhaps in changed forms; the factors discouraging or encouraging this; the distinction between tenable and nontenable lands; and the probable trends of considerable public absorption.

6. Public Financing of Conservative Forest Management: A considerable proportion of privately held land appears to be either permanently or for many decades an appurtenance of private enterprise, continuing to present, unsolved, the problems which inspire this entire study. To the extent overproduction is remedied, there will be extended a carrying problem not lessened by years or quantity even if lessened in excess of cost over earnings. There will remain the problem of privately financing a long-term enterprise offering low returns when private interest rates are considered. The question arises as to whether public money at lower rates might finance such a quasi-public service, and if so upon what terms to assure the justifying end. This is not a current issue, but seems worth guidance of its probable future consideration.

7. Protection Problems: Forest protection from fire and other destruction depends upon cooperation between private and public agencies which can be sustained only as it can be effectively financed. Every weakness of the economic fabric weakens protection and every weakness of protection undermines the economic fabric. The circle is definite and complete. Understanding of this, and of grave threats it is developing, is essential to any dependable program. - From "West Coast Lumberman" May, 1931

A CHRISTMAS TREE PLANTATION

By M. H. Wolff, R. 1

For many years there has been a dearth of Christmas trees around Butte, Anaconda, and that general locality. The people have just about depleted the sizable stock in the forest and are now beginning to cut down the bigger trees and lop off the tops. Furthermore there has been a growing increase of vandalism; Christmas tree seekers have been known to go into the front yards of cottage site permittees and other suburban home folks and cut down their beautiful carefully nurtured decorative trees. What is the answer?

In cooperation with the Butte Chamber of Commerce through a committee of which the lone nurseryman of Butte is an active member, the Forest Service is setting out 20,000 Douglas fir trees in the pasture at the old Fleecer Ranger Station site. The land is not naturally grassland but was cleared of original timber growth, consequently is peculiarly and especially adapted for growing trees. The pasture needs have decreased during the years. It is the idea that this plantation will form the source for Christmas trees gathered by individuals for themselves in this heavily populated section of Montana. It is felt that probably the way to handle this business would be to sell these trees at cost of production. The trees set out are 2 - 2 stock, the largest that can be produced and safely handled from the nursery.

There can be absolutely no question but that this is one of the highest uses to which the nursery stock and National Forest land can be put. A short rotation and a distinct public benefit are possible. In how many other places throughout Region 1, if not in other Regions, would not a similar project be distinctly worth while?

WHAT THE FOREST SERVICE IS DOING TO RELIEVE UNEMPLOYMENT

Month of April 1931

Appropriation	Temporary Employments April 1931			Temporary Employments Anticipated to June 30, 1931		
	Number	Man Days	Amount	Number	Man Days	Amount
S. and E. 1931 Emerg. Constr.	4,978	61,820	$193,506	5,698	132,964	$ 454,446
Highways within N. F's. 1931 Emerg. Constr.	106	953	2,549	86	3,903	17,768
Insect Infest. Emerg. Constr. 1931	454	4,536	17,071	931	30,660	110,847
S. and E. 1931-32 Improvement	153	1,491	5,289	614	17,994	69,266
S. and E. 1931-32 Sanitation and Fire Prevention	10	45	194	90	1,227	4,857
All other Appr's.	7,922	58,732	188,078	8,561	245,508	966,908
Totals	13,623	127,577	$406,687	15,980	432,256	$1,624,092

STALL-FEEDING AN EARLY PRACTICE

The practice of bringing cattle off the open range to good pasture and stall-feeding concentrated foods is not, as one might well imagine, a product of the corn belt and a comparative recent practice in America. As early as 1819 grazing farms were developed in the neighborhood of Philadelphia which sold for from $100 to $300 an acre. Stock was bought in surrounding States, driven in droves of up to 300 to the farms, fed on good pasturage, and fattened on oats and corn before being marketed. Records indicate that even at this early date, field or range cattle were driven from such distant points as Ohio, Kentucky, and South Carolina to farms in Pennsylvania for fattening. One writer in 1828 states:

"They (the stock cattle) are of various sizes, and the average weight, in a lean state may be estimated to be about 500 pounds, and when killed for beef, at about 700 or 800 pounds. The greater portion are fattened on pasture during the summer, but for oxen, a longer time is required, and they are fed most successfully during the winter. These cattle are fed about one year, running on good pasture through the summer, and stall fed through the winter on meal made of maize and oats ground together." - E. N. Munns

YE EDITOR DISCOVERS

Forest planting by all agencies in the United States amounted last year to a total of 138,970 acres, a gain of 24 per cent over 1929, according to reports received by the Forest Service from 43 States and Territories. Federal, State, municipal and private plantings all made substantial gains despite drought and adverse economic conditions. Last year's planting brought the cumulative record of all lands reforested to date in the United States to 1,798,048 acres.

Besides the Federal and State Governments, a total of 19,161 agencies and individuals participated in the forest planting last year. Of the more than 17,000 individuals, about four-fifths were farmers.

State forestry department plantings last year amounted to 41,038 acres, a gain of 30 per cent over 1929. Plantings by municipalities aggregated 9,214 acres, an increase of 55 per cent. Industrial organizations planted 30,230 acres, a gain of 20 per cent, and organizations of other types, with 2,518 acres planted, gained 66 per cent. Schools and colleges put out 825 acres, 53 per cent more than the year before. Individual plantings jumped from 28,475 to 33,467 acres, a gain of 17 per cent. Michigan led all the States in acreage reforested for 1930, with a grand total of 38,302; New York came second, with a total of 24,250 acres; and Pennsylvania third, with a total of 18,048 acres.

In the West, 1,305 acres were planted in Montana, 4,270 in Idaho, 1,669 in Colorado, 1,079 in California, 1,314 in Oregon, and 4,065 acres in Washington.

- - - - - - - - - - -

The Biological Survey has agreed to assign a biologist to the Wichita on July 1 for the purpose of studying the life and feed habits of game animals, the interlation of fur bearers, predators and other forms of wild life, and diseases and parasites. It is also contemplated to assign a range examiner to the Wichita on July 1 with a view to developing range management plans for both wild life and domestic livestock and to initiating certain needed administrative studies.

- - - - - - - - - - -

In the four pediments ornamenting the two wings of the new Department of Agriculture building in Washington are sculptured figures and tablets symbolic of the products of agriculture: cereals, fruits, flowers, and forests.

- - - - - - - - - - -

F. J. Hallauer is being transferred from the Forest Products Laboratory to take charge of the requirements phase of the Forest Survey. This work will involve a study of the past and present use of wood, the trends in that use and their causes, together with a study of the probable future trends in the use of wood. The major objectives are to determine the extent to which the United States can meet its future wood needs, and, if it is found that our wood productive capacity is likely to be greater than our needs, to ascertain the possibilities for a profitable outlet for the surplus.

Mr. Hallauer has been devoting a considerable part of his time at the Laboratory to special studies bearing directly on this phase of the Survey, including a study of the effect of competitive materials on the use of wood, and has already developed some significant facts. He will make his headquarters in Washington at an early date.

- - - - - - - - - - -

Assistant Professor Santos Hall of the University of Lisbon, Portugal, who has received a scholarship to study forestry in America, is visiting the Washington Office of Forest Measurements. He will probably spend several weeks here in studying statistical methods as applied to forest mensuration, etc., and will then participate in a field trip to some of the Forest Experiment Stations.

Professor Hall has charge of investigative work in the forest experiment station recently established by the Portuguese Government, and which is conducted in cooperation with the University. He has done considerable research work in connection with French and Portuguese turpentining practices and has published reports on these studies, some of which have appeared in American literature.

- - - - - - - - - - -

Paul D. Kelleter's friends in the Service will be glad to know that he is improving every day. A letter from his secretary states that he is now sitting up in a wheel chair, very weak, but getting along nicely, although his friends have been unable to see him as yet. He would be glad to hear from them, she says. He can be reached c/o Madison General Hospital, Madison, Wisconsin.

TESTS MADE OF GIRDLING vs. CHEMICALS FOR KILLING UNDESIRABLE HARDWOODS ON CUT-OVER PINE LAND

A number of silvicultural improvement tests were put in on the Ouachita National Forest in the fall of 1929, for the purpose of finding a successful method for killing undesirable hardwoods on cut-over shortleaf pine land. Tests were made to compare (1) girdling and (2) girdling and treating with chemicals. Two chemical mixtures were used, one a mixture of white arsenic and sodium hydroxide, the other a proprietary compound containing calcium chlorate. In addition, 10 small-scale tests were put in, using a variety of chemicals. Reexamination of the plots eight months after they were established showed that the chemicals did not prevent sprouting. Girdling alone gives satisfactory results, but will result in a large number of snags and a consequent increase in fire hazard. It was found that black, red, and black jack oaks are killed back easily by girdling alone, white and post oak and hickory are killed less easily, and elm and black gum killed least easily of all. The use of arsenic compounds kills the tops more effectively than girdling alone, but stimulates sprouting. - From Annual Report of Southern For. Exp. Sta.

HORSE-KILLING PLANTS IN TEXAS

Fifty thousand wild horses will be slaughtered during the current year at a plant in El Paso, Texas, that draws its supply from the surrounding territory, especially the mountains of New Mexico. The meat will not be exported for human consumption, but will be manufactured into chicken feed. There is another horse-killing plant in San Antonio, where the flesh is converted into dog biscuits. - R. 3 Bulletin

CANADA REPORTS RESULTS OF EDUCATION IN FIRE PREVENTION

The power of education in fire protection work is receiving recognition from the fire-fighters as never before. This fact was brought home at various annual meetings held by protective associations and provincial forest services this year. A review of past experience when public cooperation was negligible, as compared with the experience of the past two or three years, when the cooperative spirit has made itself a potent force in fire prevention and protection, showed sufficient evidences to indicate the far-reaching effects of systematic education through the silver screen and specially prepared motion pictures.

Facts speak for themselves, as when protectionists find that fifty per cent of their fires are reported by the public today, as against a mere handful a few years back, or when protectionists find a community voluntarily asking for permits to burn where before the advent of the lecturer settlers were, through misunderstanding, rather antagonistic and so many burned without permit that it was a real problem. Education has solved this, as it will the problem of woods travellers and motorists whose present carelessness is the chief menace the fire ranger has to face. - From the Canadian "Forest and Outdoors."

TRAVELLING ON AIR

Hugh took his manuscript case chuck full of management study course lessons but left his pocketbook reposing gracefully in the outgoing mail tray. He was off on a mysterious mission to Mexico City via Socorro early Saturday morning. It is thought likely that he will introduce the Pete Keplinger study course method into Mexico or arrange for Mexican cooperation to help out Fred Winn on the Coronado, or- - - there may be something in an announcement in Sunday's paper which reads as follows: "Mr. Hugh Calkins and Mrs. Edna Johnson Jamison were married in Socorro Saturday morning." - R. 3 Bulletin

HEARD IN THE WEISER DISTRICT, PENNSYLVANIA

A Certain Forest Inspector: "I'm in great trouble."
District Forester: "Why, what's the matter? Another family quarrel?"
A. C. F. I.: "Yes, my wife says she is going to leave me if I don't stop fishing."
D. F.: "Well, you certainly have a good wife."
A. C. F. I.: "I know it, and I'm going to miss her."

Clipped from Pa. Dept. of Forests and Waters Service Letter

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV, No. 24 Washington, D. C. June 15, 1931.

ANOTHER TWENTY FIVE YEAR MAN

By M. H. Wolff, R. 1

The stars were proclaiming a generous portion of energy, physical and mental, and an inquisitive mind, when on October 19, 1882, a sparkling-eyed, chuckling baby boy first saw the light of day, in the long-established mining camp of Sierra City in the mountains of California. Rumor has it that this boy first learned that fire hurts before he was two years old, and a few months after, instead of running away from fires, aggressively started putting out those that came within his reach.

At the age of 12, young Evan started working at a hotel, a headquarters for miners in the county seat. At 14 years he went into the mines. Progressively, he worked - shoulder to shoulder with men- at various activities connected with the mining camps of the surrounding country, which included both surface and underground mining. In summer he worked in the woods for a breath of fresh air. In 1906, this young man refused an opportunity to become a millionaire by turning down a chance to join fortunes with several amiable companions in the great rush to Goldfield, Nevada. He had had his fling at this risky game. Instead, he undertook the job (in those days particularly thankless) of becoming one of Uncle Sam's forest men on May 1, 1906 -- 25 years ago. First a guard on the Yuba Forest Reserve -- long since a part of the Tahoe -- he went through the successive steps of Assistant Ranger (Nov. 1, 1906), District Ranger (Feb. 15, 1907), Ranger at large (Jan. 1, 1910), until he became, on July 1, 1910, Forest Supervisor of the Eldorado National Forest. August 1, 1915, he became an inspector in the District Office in San Francisco.

At the outbreak of the war, he was commissioned Captain in the 10th Engineers, went to France September 9, 1917, with Company F of that regiment. He was with the Company at Levier, Doubs, creating and operating a sawmill which was credited with the biggest cut of all A.E.F. mills, until August 6, 1917, when he succeeded Col. C. S. Chapman as Commander of the 2nd Battalion of the 10th Engineers with headquarters at Besancon, Doubs. He had charge of timber operations and road-repair activities of the 2nd Battalion, 10th Engineers; 12th and 9th Battalions of the 20th Engineers, whose activities extended over a half dozen or more Departments of France. He did not save any timber during that period, but destroyed a lot of it. This however, might be likened to building a wide fire line which requires destruction of timber, in order to hold back the fires of German imperialism.

Back to the United States in July 22, 1919, he returned to the California District, in charge of Forest Roads until December 31, 1919. January 1, 1920, he was attached to the

Office of Operation in Washington in the capacity of Inspector, concentrating principally on fire. His noncomplacency with things as they are and analytical criticism of discernible shortcomings in standards, practices, and methods of attacking the fire game left their distinct marks in punching up the efforts of the Forest Service in this direction, although even after that we all had a long, costly, and harrowing way still to go.

On October 10, 1923, at San Francisco, he was married to Gladys Bennett of Placerville, California.

On February 1, 1925, he succeeded Franklin W. Reed as District Forester of District 7. Here, also, was an enormous fire problem, but in addition to that were a multiplicity of problems in rounding out the National Forests and putting them under a sound administration. Here he learned that trees do grow, at least to such a degree that it was hard for him to conceive that trees at 100 years of age as found in much of Region 1 are no larger than the 20-year-old stands down in ole Alabam'.

In May, 1929, he succeeded Fred Morrell as Regional Forester of Region 1, just in time to undertake the load and worry of the 1929 fire season. This experience, however, was a wonderful help to him in evolving the necessary steps which have been and are now being made in the forest-fire-fighting activity. Mainly through his efforts in 1930, including a personally conducted tour of the Appropriations Committee of the House, substantial increases were made in the funds of the Forest Service for making accessible the wildernesses of the National Forests of the Northwest, so that today the almost-unrealizable dreams of ten -- even five -- years ago of enabling more facile movement in the Forests is almost at a realization. His aggressive enthusiasm and analytical and constructive effort and will for improvement and proficiency wherever possible are showing the way to the realization that bad forest fires and fire years can and shall be subjugated.

WHAT THE FOREST SERVICE HAS PROMISED TO SAVE DURING THE FISCAL YEARS 1931 and 1932

The papers have for some time carried reports of conferences by the President with Cabinet members and their bureau chiefs regarding savings in fiscal years 1931 and 1932. The Department of Agriculture had its first such conference on Monday, June 1. The Forester had to cut short a field trip in order to return for this conference and the preliminary conference with the Secretary.

The necessity of curtailment of Federal expenditures on account of the billion dollar deficit for 1931, and a probable deficit of similar size for 1932, is considered very urgent indeed by Federal authorities. The Forest Service meets attitudes of surprise and perhaps of some irritation that an organization spending so many millions as are appropriated for the Forest Service finds so much difficulty in making savings to contribute toward the solution of a Federal financial emergency.

In the conference held June 1 the Forester announced that $2,099,670 could be withheld from expenditure during the fiscal year 1932. This amount is made up of the following:

1932 increase for additional timber sales personnel	$ 24,000
From reorganization of road study	5,670
Curtailment of special land exchange work	5,000
Forest highways	1,500,000
Curtailment of land acquisition expenditures	100,000

Reduction of payments to States incident to decrease of receipts	340,000
Amount which will not be withdrawn from treasury for Forest Products Laboratory Building during 1932	125,000
Total	$2,099,670

The Forester took the position that if further cuts were desired they could best be made by levying a percentage assessment on all available appropriations. The effect of a 1½ per cent assessment had been figured, but the making of such an assessment has not yet been required. The curtailments involved in the $2,099,670 program will be required.

On account of the unprecedented spring fire season, the savings which the Service has been required to make for 1931 will all be needed to pay expected FF liabilities. Ten-day reports for the period closing May 20 showed expenditures of $46,000 chargeable to FF. For the period closing June 1 the expenditures are reported to be $37,000. This only leaves $50,000 from all available funds, including the savings which the Service had been required to make, for payment of FF bills for the three remaining ten-day periods of the fiscal year. Good rains have occurred in the Lake States and in the East. If good rains come in the West and everyone responsible for fire fighting uses his head, we may get by, but it will be a close shave. - Roy Headley

ROADSIDE PLANTING

(Discussion at the Central States Forestry Congress, Indianapolis, Ind., December 1930)

Mr. N. G. Rochester (Louisville): "Mr. Wilcox, not as a forester, but as an ordinary layman, I would like to know what the State of Indiana is doing toward planting trees along the highways.

"Over in France, under government supervision, they have their highways well shaded. I drove to St. Louis. I found that a number of people lost their lives by becoming overheated on the highway through Indiana. We burned out four tires on those concrete highways. We drove through five miles of land in Missouri that was shaded, five miles of new concrete road built over the old roadway where the trees shaded it. There must have been thousands of automobiles parked in the shade on that highway.

"What is being done to protect the motorist and make his travel pleasant, instead of driving over hot highways and burning out motors and tires? I was disappointed to see that there is nothing on the program on that particular thing. I would like for someone who knows about it to tell us about it."

Mr. Wilcox: "In Indiana we are supplying trees from the State nursery to the State Highway Commission for planting along the curves and along fills, just as fast as we can. Pennsylvania, as usual, is taking the lead in all types of reforestation, and tree-planting work. They have made that part of their highway program a definite branch in their office. They took Mr. Keller, the man who was in charge of the State nurseries, and put him over in the Highway Department and gave him an office and a working personnel. They are carrying on a definite program of planting trees and shrubs, and ornamental material along their State highways. We are already starting that here in Indiana.

"We find, however, that the people come along and help themselves to the trees. That is going to be the big problem about roadside planting. It is going to take an educational program to keep them in the ground."

Chairman Coulter: "In the very first planting that we did we found that over ninety per cent of the trees were lifted by these suffering motorists the first month. I presume they wanted to carry the shade with them. Nobody thought of them as being planted there for a purpose; they seemed to be growing wild.

"There is another thing which might be said, I presume, in defense of some little hesitancy in planting trees, whether you take it in France (I happened to be there last year) or in this country; this is the constant necessity for widening roads. I drove through perhaps fifteen miles where two great avenues of trees which had shaded the road originally were cut down on account of the road being widened. We are having that happen, the widening of roads. It is difficult to know where to plant. We may plant trees now, and in ten or fifteen years they have to come down. It is love's labor lost anyway. ***"

Received but Not Smoked

During a recent trip on the Payette Forest, a Washington inspector backed his eye for grade percentage to the extent of "a package of cigarettes against a package or can of tobacco." How much his own shortness of wind in climbing the grade contributed to his opinion is not known. At all events, the Assistant Supervisor volunteered to obtain specific data on his next visit to the sale area. His report, accompanied by a package of Peerless from the Supervisor, is as follows:

"S-Bets 5/15/31.
Payette

I have measured the grades on the road constructed for the use of Coleman trucks logging in Sec. 33, T. 14 N., R. 4E. I have the following to report:

Percent of slope	Distance
9.00	approach
38.00	66 feet
33.33	132 "
35.00	165 "
45.50	66 "
28.00	30 "
37.00	133 "
25.00	132 "

Average grade for 724 feet, 34.11 per cent."

The Washington inspector did not get any free smoking, but is still wondering what constitutes inaccessible timber for a logger equipped with modern machinery. E. E. Carter

ANOTHER CENTURY OLD SAWMILL

Seeing in the May Service Bulletin Mattoon's account of a 102-year old sawmill at Natchez, Miss., operated by the Brown-Learned family reminds me of one in Vermont. A dozen or 15 years ago while on a forest fire inspection trip through the southern part of the State I happened upon the town of Peru which sits astride the Green Mountains. It was settled by a hardy folk in the late 1700's, as I recall it. The sawmill here at the time of my visit had then passed its 100th birthday by several years, having been continuously in the Hapgood family from the very beginning. Perhaps the most unique thing about this enterprise was not the antiquity of the mill, uowever, but the fact that within a stone's throw from the mill the family had persistently retained a tract of timber in absolutely virgin condition (about 10 acres, as I recall), not even the dead wood being allowed to be removed from it. Almost equally unique was the action of the then proprietor, Mr. M. J. Hapgood, who in addition to giving the States 100 acres of forest land at the summit of the range as a State forest and park, deeded to the care of the State forester an additional adjoining area of about 750 acres which he was to pay the taxes on and receive the income from, while binding himself and his heirs, nevertheless, to cut only such timber as might be authorized by the State forester. He was one of the early advocates of forestry and wanted to do something personally to promote its practice in the State. He believed that the gradual removal of the mature timber from a tract of this size, under the direction of the State forester, would provide a permanent income for his family and furnish an example that would be followed in one way or another by other land owners. - L. S. MURPHY.

Note:

Just as the Bulletin was going to print it was learned that some 8,300 acres of Hapgood lands were in process of acquisition by the Service for inclusion in the Green Mountain Purchase Unit. A few years ago, according to a letter received from State Forester Commissioner Merrill, the legislature relinquished its supervisory rights over the 750-acre tract which apparently is a part of the 8,300-acre acquisition unit referred to. However, the Branch of Lands (Region 7) know nothing of the virgin timber lot. This ,perhaps, was cut subsequent to Mr. Hapgood'x death, although he at one time intended it should be perpetually preserved. - LSM.

YE EDITOR DISCOVERS

Region 4 has its own troubles from forest fires every year, but in addition this year it has recognized the bark beetle situation on the Targhee Teton, Wyoming, Caribou, Cache, Minidoka, and Wasatch Forests as constituting an emergency comparable only with the worst kind of fire season. On the instfuctions of the Regional Forester regular work on these and other Forests has been ruthlessly sidetracted and the Forest officers put in charge of "bug camps" to deal with the pests with fire and ax. There are, for instance, 11 camps in the drainage of Greys River on rhe Wyoming Forest besides a separate "end of the road camp" necessary for the handling of supplies; and the Supervisor of this Forest is functioning as project manager. On the Targhee there are 13 camps, each with a large area to cover.

On many areas the work this year is comparable to the mop-up job after a line has been put around a fire. On others, not worked last year, the infestation is like an as yet uncontrolled fire. The entire organization, however, is filled with determination to do a thorough job in either case, and with last year's results now known to be better than was hoped for the chances look good for ending this serious uprising of the insects on many of the areas being treated this year.

— — — — — — — —

Recent measurements have been made by the National Park Service of all the important trees in the Mariposa and Merced Groves of Sequoias in Yosemite National Park. The tree heights were obtained by triangulation, using a transit for vertical angles and a tape or stadia rod for horizontal distances. The tallest tree in the Yosemite, according to these data, is in Merced Grove and is 300 feet high. Mariposa Grove's tallest tree is the Clothespin, 293 feet in height. This technical survey of trees in the Yosemite the Park Service feels contains much data of scientific importance.

Nevada will join the list of 36 States cooperating with the Forest Service in forest fire prevention, the agreement between the Surveyor General of Nevada and the Secretary of Agriculture having been signed to take effect July 1. Nevada lists 315,000 acres of privately owned forest land in need of protection. Private owners spent $2,655 for fire protection last year. The Federal allotment for cooperation in Nevada next year will amount to approximately $1,200.

- - - - - - - - -

On June 4 the purchase of heavier type trucks, into which so much effort has been put for the last 4 months, was still pending. Regions 1, 6, and 4 need trucks involved in this transaction. All documents and recommendations are being referred to the Comptroller General for final action. The delay has been due to the high pressure salesmanship of one truck company whose offering, in the opinion of all the experts of the Forest Service and Bureau of Public Roads, did not meet the specifications.

- - - - - - - - -

The Naval Stores Experiment Station of the Bureau of Chemistry and Soils, for which the last Congress appropriated $40,000, and for which ten cities and localities in Georgia and Florida recently offered free sites and facilities, is to be located in the Osceola Purchase Unit at Olustee, Florida.

Olustee, in the heart of the yellow-pine area, was selected as the site for the new station because of its accessibility to naval-stores producers of Georgia and Florida by good roads and railroads and the fact that the area surrounding it contains several different types of soils and has a large available supply of gum from each of the turpentine-yielding pines, which will enable thorough study of the gums and the development of products. It is also in that part of the Osceola which the Forest Service will devote to research on gum production and the location of the station here will make possible the coordination of the naval-stores work of the Bureau of Chemistry and Soils with that of the Service. Visiting producers will therefore be able to see and study on a single trip the whole subject from the woods work by the Forest Service through the still work and packing by the Bureau of Chemistry and Soils.

- - - - - - - - -

W. T. Cox, well-known member of the Service in the early days and afterwards State Forester of Minnesota, has returned from Brazil, where he has been employed for sometime in reorganizing forestry work. The work has been discontinued on account of the depression.

A REVIEW OF WILD LIFE CONSERVATION PROGRESS

(Extract from an address by Paul G. Redington, Chief,
Biological Survey, at 16th American Game Conference)

During the year large areas of forest and woodland have been ravaged by that "red enemy" fire. What its toll has been on the wild creatures, no one can specifically say, but the destruction has been of a wholesale nature. We cannot control the behavior of Nature when she looses her lightning bolts upon an arboreal region. But man's carelessness and ignorance regarding the use of fire in the woods must be overcome if the forest and its wild life inhabitants are to continue to be among America's greatest esthetic and economic assets. The members of this Conference individually and collectively possess an influence and power that must be joined in its entirety to other forest-wise organizations in a concerted and dramatic appeal for the resources necessary to slow up materially the rapid march of fires across our forest terrain.

The disappearance of the American frontier, which began with the westward movement in the days of the colonists and was hastened by the later eastward movement from settlements in California and the Northwest, was mainly the story of the occupation of the intermediate areas. This occupation was characterized by great waste, for the land was too abundant to make intensive settlement and cultivation profitable at the time. When areas most suitable for stockraising, farming, water power, and other industrial purposes were taken over, this frequently meant the destruction of the haunts of the most abundant species of wild life. Now that the frontier is a thing of the past, however, our people have come to recognize that conservation is essential. Our economists, however, sometimes fail to give sufficient weight to the fact that conservation must include not only farm lands, power sites, forests, mineral deposits, stock ranges, and other economic resources, but the resources in wild life as well.

To quote Ambassador Dawes,

"The conservation movement in the United States to-day constitutes this country's finest demonstration of pure idealism -- of unselfish patriotism. Those who adhere to it solely for the love of out-of-doors, who comprehend their duty only in terms of planting a tree purifying a stream, protecting a bird's nest, or otherwise making the out-of-doors a little cleaner, a little more beautiful, and a little more alive with the pulse of nature, have justification enough for their work and reward enough in their accomplishments. On economic grounds alone we may call upon the self-interest of our people and justify all the time and energy that is expended in a conservation movement.

TESTS MADE OF CHEMICALS TO CONTROL SAP STAINS

The principal work of the pathology of forest products in the Gulf States and Lower Mississippi Valley has been directed towards devising efficient methods for controlling sap stains and molds in domestic and export lumber and logs. Experiments have been limited to the use of antiseptic solutions, applied to lumber as dips or sprays, because it was evident from prelinary survey that such chemical control offered the best possibilities of giving immediate results of practical value. During the summers of 1929 and 1930, eight small-scale tests were established at mills located in Mississippi, Lokuisiana, and Alabama to determine the relative effectiveness of 68 promising chemicals on both pine and hardwoods. Five of the treatments proved of sufficient effectiveness to warrant commercial trial and accordingly were used in large-scale dipping tests at 5 representative mills in Louisiana, Mississippi, Alabama, and Florida. Mill-run of stock was employed in these tests and the methods of treatment followed those used in current commercial practices. Although a detailed analysis of the final records has not been completed, it is evident that efficient control of stain in both pine and hardwoods was accomplished by several of the treatments. These treatments satisfy the other requirements of an efficient stain preventive in that they are cheap, cause no discoloration, are easily prepared and handled, and are non-injurious to workmen or to equipment. Efficient stain prevention opens up a wide field of usefulness to the lumber industry through insuring effective control on pine at both large and small operations, and in replacing the more costly methods of steaming and end-racking of sap gum, yellow poplar, and magnolia. - From Annual Report of Southern For. Exp. Sta.

EMPLOYEE'S PART IN EFFECTIVE PUBLIC RELATIONS

(Extracts from an address by John M. Fitzgerald, Assistant to Chairman, Committee on Public Relations of the Eastern Railroads)

The experience of the railways proves that public relations efforts can only produce the greatest benefits when supported by a service acceptable to the public. In other words a quality product is fundamental to effective public relations work.

Furthermore, every railway executive, officer and employee must be a self-constituted public relations agent. They should be well informed, particularly with regard to their own railroad.

There must be wholesome and cordial cooperation between all branches of the railway personnel. Cooperation does not mean a one-sided or half-hearted effort. It does not yield preferred benefits or unfair advantage. We should always hold the word at its true value - a unity of effort for mutual benefit. A railway employee who cannot sell himself to his associates in the railway family, stands little chance of selling his own railway or its service to the public.

As the public is required to use rail service, it properly demands an efficient service. Shippers and passengers are entitled to courtesy as a matter of right. They will accept friendship to the extent and in the same spirit in which it is offered. A patron may evidence little interest in a freight rate or a passenger fare, but his mental attitude toward the railways is often determined by the manner in which the transaction is handled.

Hence, railway employees can do more than merely perform the duties for which they are paid. They should render services in a manner which will inspire both the confidence and the friendship of railway patrons. Service may win traffic to a line, but a friendly interest will usually make the shipper an ally.

The public is essentially fair-minded. Patrons are willing to pay fair and reasonable rates for good service. But they desire a clear understanding of that service. They want to know what we are doing and why we are doing it. When something happens which a shipper does not understand he is likely to become very critical.

Railway public relations activities are conducted upon the highest standards of business ethics. They constitute a real accomplishment which benefits everybody. The individual citizen and his community gain through a knowledge of railroad facts. To the railways themselves, this means profits.

BELIEVE IT OR NOT!

Various accounts have been published as to how certain European cities have gotten away from taxation through revenues derived from city forests. One visitor wanted to know whether the forest on his city lots would pay his taxes and what he must do to have this continue until he got ready to build!

Strange as it may seem his request was a legitimate one as he owned some eight hundred acres of woods which had just been included within the city limits of an expanding metropolis. ---E.N.Munns.

Bibliography

"Changing the Chirp-Rate of the Snowy Tree Cricket Oecanthus Niveus with Air Currents," Science 10-3-30. (1800 words)

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 25 Washington, D. C. June 22, 1931

WHAT ABOUT A RETIRED FORESTER'S HOME?

By Fred W. Cleator, R. 6.

Would you rather finish up the battle of life trying to compete in a home with a bunch of young people - or wouldn't it be better perhaps to look toward the sunset backed by and with a bunch of the old cronies?

This thing has been milling around in my mind for quite some time. Supervisor C. C. Hall smoked out the first idea several years ago. He has jurisdiction over the Breitenbush Ranger Station, which is a very pleasant place adjacent to a hot spring on Government ground. He has fought bravely to hold the integrity of the station, which is in the center of a recreation area of accelerating value. His idea was to have a fairly roomy place gradually built up on Government ground where the sick and the tired among forest people, women and men, might recuperate at low expense. Grand thought in some ways.

Then a few weeks ago Supervisor Pat Thompson handed me the name of that which I had been groping about for so long - A Retired Forester's Home. He stated that although he was a war veteran he would personally prefer to wind up with a bunch of foresters than in a Soldier's Home.

Foresters in R-6 and other Regions are beginning to retire on "pension." Some have personal objectives that would present obstacles in the way of retiring with their fellows, to a common home.

Jack Horton for instance has an ideal in mind of finishing his days sitting on a rock alongside a sagebrush, with a foreground full of cactus, packsaddles, anthills, pintoes, bull chips, etc., and an unbroken vista of purpling distance in all directions. Some of our many tree-lovers might vote with him on this alluring and romantic finish.

I would like to know what others think of the idea. The organizing would not be such an easy thing, of course. A good many different minds to meet and revolve in a common orbit; but certainly it has potentialities that might be resolved into something powerfully good and heartening to the boys who have gradually to give up the regular jobs that they really love, probably without knowing until these tasks are torn from them.

I am going to set down a few thoughts and side lights that come to me. The advantages seem more than the disadvantages.

The first thing to do would be to organize enough men who are willing to put in a few dollars for a share in the enterprise in advance - enough to buy some raw land where we want it. Incidentally, I am rather averse to trying to rent a main headquarters site from the Forest Service, principally because we would not want to be beholden in any way on our old employer; secondly, because the available sites would seldom be suited to all-year-round habitation.

My dream place at present is a tract on the sunny side (old men subsist on sunshine) of a large lake on the Siuslaw Forest. This lake is only about 5 feet above the Pacific Ocean in elevation and connected to it by a sleepy little meandering river which will carry a good sized kicker boat well down into the sand-dune country where the river finally gives up to the sea but where a rheumatic could tie up a boat and hobble over the sand to the ocean beach, if he wanted. A kid would picture pirates and treasure and adventure here. This is only a dream. Thompson thought it was not so bad. There are many other possibilities.

My experience in the recreation game points to a lake frontage of several hundred feet, maybe in a cove. Then I would, if I could, have perhaps 40 or more acres of flat to rolling ground behind with perhaps a cold spring or two and a little stream, soil fertile enough for some gardening, enough timber and brush to work properly into the whole picture. The area should be large enough for a good spread of playground, gardens, quarters, and needed expansion.

The lake frontage would want to be left alone except for a convenient boathouse wharf and boats, and such parking with benches and hammocks as would be agreed upon.

Then we would probably want one good-sized lobby with screened porch, fireplace, etc., and a good vista of lake. Otherwise all buildings, cabins, tents, barns, garages would be in the background. Sounds almost official by gosh - but it's good sense.

Anyway there would have to be gradually worked out the best governing body to properly take care of all these matters. Just how much influence or sayso the not-yet-retired shareholders would best have I don't know, but they probably ought to have a few votes at least in the beginning. Perhaps they ought to have a special space to practice RETIRING on.

The idea would be to provide a place for all kinds of foresters - might even include a married men's quarters - possibly even a place for antiquated stenogs. Give everyone the best possible chance to wind up his life as he would love to do it. There would be some tough old nuts to go along with, but put them together and let them crack each other. If a chap wanted to wear plus-fours, or sleep in his underwear - O.K. - so long as he stayed by himself or his peers. The risque-story tellers and cussers would have their own sound-proof room or alcove.

Think of the pleasures that one could accumulate in 10 years or 20 years of this kind of a life - log rollings, rock gardening, fishing, bucking contests, axe fights, coffee drunks, poker, peewee golf. A hundred retired foresters might think of a thousand thrilling octogenarian antics with each other where they would moon and waste away to early death alone, or with unsympathetic youngsters.

Some of the boys would probably want to play around with game or fish propagation. We might have to buy a small lake for them in the next township. Some would want to take the community bus up to Eugene or Corvallis to the picture show or football game. There would probably have to be a few nurses and cooks and janitors around, according to how much style was desired by different groups or the whole gang.

If all Regions had similar outfits, the centenarians could apply for transfer, and seasonally Alaskans to California in winter and vice versa.

If I ever get through compiling the winter statistics and get into the field in the direction of the Siuslaw, I will collar Supervisor Ralph Shelley and go into a huddle on this thing. Something might come out of it if the boys are interested, and want a report. Shelley's land exchange practice could probably pick up a good place for nothing down and 4 bits a month. At least that's a good mark for him to shoot at. What do you think of it?

Remember that when you get old and the pay check is not so big - the kids may try their best for a time to go along with you, but if you manage to hold out long enough you're likely to "crab" yourself into trouble. They will love and respect you, however, if you have enough independence to keep out of their way.

"BOX SCORE"

REGIONAL FIRE QUOTAS AND 1931 RECORD TO JUNE 10, 1931.

Region	Area burned over N.F. & Private inside .1 of 1%: 1925-29 Average	Area burned over N.F. & Private inside .1 of 1%: Quota Prorated	Area burned over N.F. & Private inside .1 of 1%: 1931 to-date	Per cent Class C: 1925-29 Average	Per cent Class C: 1931 to-date	No. of extra period B.C. fires: 1931 to-date	No. of M. C. fires: 1925-29 Average	No. of M. C. fires: 1931 to-date
1	165,028	45,521	5,430	9.2	14	6	365	109
2	9,804	7,335	9,300	9.7	21	0	134	25
3	10,903	9,588	3,346	6.1	27	8	227	79
4	13,773	6,137	276	8.3	20	1	206	13
5	187,012	54,326	3,836	19.3	14	21	924	181
6	125,333	33,731	10,600	10.4	24	14	704	195
7	74,951	20,000	24,000	55.1	53	12	810	669
8	1,124	1,499	1	10.4	0	0	36	1
9	12,945	5,132	32,103	35.6	64	11	47	47
Total	600,873	183,269	88,892	17.0	35	73	3,453	1,319

CALENDAR YEAR F.F. EXPENDITURES

Expenditures: 1930	Expenditures: Average Annual 1925-1929	Region	Total F.F. C.Y. 1931 to-date	For Emergency Gds. 1931 C.Y. to-date	No. of F.F. Guards on duty
$ 327,460	$ 679,400	1	$ 52,500	$ 3,700	60
32,925	9,457(a)	2	1,361	28	1
15,386	36,673	3	8,404	213	0
37,666	30,815	4	1,717	0	0
235,183	459,572	5	32,190	5,556	49
407,668	495,238	6	66,000	7,570	69
191,861	54,673	7	34,708	2,249	4
847	3,645	8	0	0	0
75,947	37,675(a)	9	30,982	587	1
$1,324,943	$1,807,148		$227,862	19,903	184

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

IDEALS IN AMERICANISM

Recently a volume of "The Dissenting Opinions of Mr. Justice Holmes" appeared. Revered by all, his thoughts on various matters are worth our study as ideals in Americanism.

"If there is any principle of the Constitution that more imperatively calls for attachment than any other it is the principle of free thought - not free thought for those who agree with us but freedom for the thought that we hate. I think that we should adhere to that principle with regard to admission into, as well as to life within, this country" - U. S. vs. Rosika Schwimmer, excluded pacifist.

"It is desirable that criminals should be detected, and to that end that all available evidence should be used. It also is desirable that the Government should not itself foster and pay for other crimes, when they are the means by which the evidence is to be obtained. I think it is a less evil that some criminals should escape than that the Government should play an ignoble part" - Olmstead vs. U. S. in wire-tapping case.

"There is nothing I more deprecate than the use of the 14th Amendment beyond the absolute compulsion of its words to prevent the making of social experiments that an important part of the community desires . . . even though the experiments may seem futile or even noxious to me and to those whose judgment I most respect." - Truax vs. Corrigan, sustaining Arizona anti-injunction law.

"It is not for this court to pronounce when prohibition is necessary to regulation, if it ever may be necessary - to say that it is permissible as against strong drink but not as against the product of ruined lives." - Hammer vs. Dagenhart, sustaining child labor law.

"I think that we should be eternally vigilant against attempts to check the expression of opinions that we loathe and believe to be fraught with death, unless they so imminently threaten immediate interference with the lawful and pressing purposes of the law that an immediate check is required to save the country" - Abrams vs. U. S. protesting conviction of five Russian-born "alien anarchists" accused of sedition.

"The power of Congress seems absolutely free from doubt. The end, to remove conditions leading to ill health, immorality and the deterioration of the race, no one would deny to be within the scope of constitutional legislation." - Adkins vs. Children's Hospital, sustaining law creating minimum wage board to fix standards in the District of Columbia.

MINNESOTA'S GOVERNOR STUDYING SELECTION OF NEW STATE CONSERVATION COMMISSION

(From an editorial in the St. Paul Pioneer Press)

In announcing his failure to obtain the services of Dr. Raphael Zon, Director of the Lake States Forest Experiment Station, on the new State Conservation Commission, Governor Olson discloses partially the principles on which he is acting in making appointments to the commission.

The vast natural resources for which Minnesota wants a policy of constructive development lie almost entirely in the northern part of the State. The commission therefore must command both the confidence of northern Minnesota, and the active support and interest of southern Minnesota. One place on the commission accordingly should be reserved for representation of the southern counties.

The opportunities of the commission will be numerous, but none can be more important than those related to the State's forest lands. The fact must be kept in mind that where timber is concerned both public and private interests are necessarily to be consulted. Since the cooperation of the private lumber companies will be essential in the development of a genuine conservation program, some public spirited representative of the industry should be placed on the commission.

With the membership limited to five, Governor Olson will of course be unable to give recognition to all the interests and groups whose representation would be desirable, but will be forced to choose as best he may. High among those with good claims to consideration are the Izaak Walton League, the club women of the State, the American Legion. The commission will take office on July 1. Meanwhile Governor Olson has no more important work than the careful determination of the personnel.

YE EDITOR DISCOVERS

The members of the National Forest Reservation Commission have given final approval to a program of purchases, involving 16,558 acres lying within 21 National Forest purchase units in the States of Alabama, Arkansas, Florida, Georgia, Michigan, Minnesota, New Hampshire, North Carolina, Oklahoma, Pennsylvania, South Carolina, Tennessee, Virginia, Wisconsin, and West Virginia. About 50 per cent of the purchases will be made in the State of Arkansas. The average price to be paid is $3.18 per acre, and the total obligation $52,625.

The cases embraced in this program contain an average area of 100 acres and are confined to purchase units which were severely affected by the drought last summer, or to sections of the country where the unemployment situation and financial conditions are seriously felt. The owners of small tracts only are affected by the approval of this program.

- - - - - -

Wooden cross ties were used for the first time in railroad history, according to the Pennsylvania Railroad, on the old Camden and Amboy line, the first railroad line in the State of New Jersey.

It was the original plan in constructing this pioneer railroad to use great stone blocks two feet square bought from the prison authorities at Sing Sing, New York, attaching the rail to the stones by a newly devised hook headed spike - the forerunner of the spike now in general use on the railways. The authorities at Sing Sing having failed to deliver stone blocks rapidly enough, the engineers in charge ordered hewn wood cross ties to be laid temporarily, the rail to be spiked directly to the ties. To the astonishment of all these wood cross ties gave such satisfactory service and were so ideally suited to the purpose that they were permitted to remain, and as time went on and experience taught its many lessons, the stone blocks in the track were gradually removed and replaced by the wooden ties.

- - - - - -

"Magnolia," the Forest Products Laboratory says, "is a very good wood for furniture, being comparable to yellow poplar in some of its properties. Practically all magnolia lumber comes from the evergreen magnolia (Magnolia grandiflora), which grows widely in the South.

"Furniture factories buy considerable quantities of magnolia, particularly for making kitchen furniture - tables, cabinets, and benches. One of the greatest uses of magnolia in the furniture trade is for frames of upholstered pieces. The wood is also quite commonly used in the manufacture of dining-room, living-room, and bedroom furniture."

- - - - - -

Mr. I. Baruch, Assistant Director of the Personnel Classification Board, is the latest one to become interested in our discussion courses, which have been given for the past four years. He desires complete sets of these courses for his library, and it is to the advantage of the Service to be able to comply with his request.

Unexpected demands for copies of the lessons and discussions on the courses have exhausted our supply. The Washington Office would greatly appreciate the receipt of any sets, complete or incomplete, on the courses "A Study of Cost Accounting," "Executive Management," "Personnel Management," or "Organization." If any members of the Service are willing to spare copies of lessons or discussions which they have received, the papers will be consolidated in Washington into complete sets and made available for complying with requests received from important institutions.

THE GOOD OLD DAYS

By E. N. Munns, Washington

The Dedham Town Records in 1637 show that a committee was "chosen to contrive the Fabricke of a meetinghouse." Among the articles were the following:

"There shall be allowed such as do fell Pynes of 2 foote over at ye carfe (Kerf?) six pence (12 cents) and for Oake of the same thickness eight pence (16 cents): and for grater and smaler after ye same Rate. If any tree split by the default of ye feller he shall loose ye felling.

"Crosse cutting every 2 foote over to be allowed six pence and so every scantling after that Rate.

"To allow for saweing Pyne bords 5 S. ($1.25) & for splitting 6 S ($1.50) per 100. And for ye breaking Carfe of 2 foote deepe 3 d (6¢) per foote Running Measure.

"Carpenters to have for makeing pitholes 12 S. ($2.90) per pair."

When are those noble timber-fallers of the present day willing to work on such terms?

Dedham built a schoolhouse in 1648, 18 x 15 feet, for which the builder received £ 11/3d ($53.19) "for his worke about ye schoole house." Laborers received 1 S. 8 d. (40¢) per day.

Then in 1694, Dedham had to replace this schoolhouse and the selectmen met "to go threw the agreement with John Baker" conserning it.

"John Baker shall goe on and build the schoole house, finding all timber, boards, claubords, shingles, nails, glasse, bricke, stone, and clay & borde the outside and claubord the inside & make it close warm and desent suitable to such a schoole house..........John Baker shall receive of the Town of Dedham twenty shillings in money att the time when said Schoole house is raised and fifteen pounds ten shillings ($73) at the twenty-fifth day of February next to be payed in corn in Rye at four shillings per bushel and Indian corn at three shillings per bushel and so much as shall be payed of the fifteen pounds ten shillings in mony the said John Baker shall abate one-fourth part thereof. He is also to receive the old schoole house."

HAIL THE QUAIL!

"By legislative enactment, and assurance of approval by Governor Rolph, the valley quail becomes California's State bird. The bill to confer the distinction was introduced by Assemblyman Eleanor Miller of Pasadena, backed by the Audubon Society and numerous women's clubs.

"The mocking bird, the California blue dove, even the road runner, have their partisans; but the choice of the valley quail, distinctly a native, handsome, proud and brave, will we believe prove pleasing to everyone that knows him.

"And the quail having been elevated to leadership among the birds of the State, shouldn't the next step be to see that he is not denied the right to live here?

"The last decade has proved disastrous to him. Where once the quail were in bands of thousands, now rarely is found even a small covey. Insatiate unsportsmanlike hunters have done much to exterminate the birds; drouth and forest and grass fires have helped deplete the covies, and the boasted 'march of progress' into the hitherto open country has about finished the job.

"Where protected, the quail multiply. City and other parks and gardens where good cover is afforded probably contain more quail at this time than can be found in the country.

"Having conferred the honor of leadership upon the quail, let us make his life more secure. It would be a pity to have a State bird only in effigy." - Los Angeles Express

FROM A REGIONAL FORESTER'S LETTER ON FIRES OVER 100 ACRES IN AREA

"The information was compiled from analyses prepared by the Forests themselves --- It will be noted that 'Failure of Personnel' accounted for 7 per cent --- The corresponding percentage last season was 2 per cent. I do not believe that there is reason for apprehension in this, but rather that we are becoming more critical in our self-analysis, and that each year our ideas of what constitutes adequate performances are being revised. We are regarding certain lapses as failures now that a few years ago would not have been thought of as serious. This is as it should be, and would appear to be the result of the growing habit of self-analysis in this regard, together with an increase in our personnel standard as well as our growth in the more adequate tangible means of fire fighting,-roads, equipment, and plans."

SNOWSHOE RABBIT WILL BE STUDIED

Investigators of the Lake States Forest Experiment Station will join those of other States in making an intensive study of the snowshoe rabbit, which has a mean habit when pressed for food in early spring of nipping the buds from pine seedlings, either stunting these little conifers or eventually killing them.

An acre tract will be fenced in and divided into equal pens, each to be the home of two does and a buck. Newly-born rabbits will be ear-tagged and turned loose, so that if shot or caught new facts may be gathered as to their migratory habits. Added data concerning their movements under natural conditions in the wild state will prove of value in determining forest protection measures that must be taken against them.

The building of a wire enclosure has been commenced, and the project, which may be carried on several years, will soon be under way.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 26 Washington, D. C. June 29, 1931.

HIGH LIGHTS OF THE TIMBER CONSERVATION BOARD MEETING

By R. E. Marsh, Washington

By public hearings in Washington June 10 and 11, the Timber Conservation Board gave an opportunity to representatives of the organized lumber and of the pulp and paper industries to explain the economic conditions in these industries and to suggest remedial measures.

Naturally, first emphasis was given at the hearings to the emergency conditions within the industry and to needed immediate remedial measures rather than to the longer-time, more indirect public interest objectives, such as keeping forest lands productive, although it was frequently argued that such ends would in the long run be served by the measures advocated. Relatively little attention was given, also, to distribution problems. Lack of time limited impromptu questioning. It is hoped that the complete record of the hearings may be available later for the regional administrative and research offices.

It is possible here to mention only a few of the high lights. Underlying the current difficulties as presented was the chronic condition of overcapacity and overproduction, emphasized by the general economic conditions of the last two or three years. Total lumber mill capacity was estimated at 66 billion feet in 1929 and operations during the first five months of 1931 at 42 per cent capacity, with about 35 per cent for Douglas fir.

Colonel Greeley ably and comprehensively pictured the conditions in the Douglas fir region. He dwelt in detail, with the aid of charts and statistical evidence, upon the tremendous investments in stumpage, plants, equipment, working capital, taxes, etc., which formed the basis of annual carrying charges, or, as he termed them, "charges for protection of investment" amounting to several dollars per thousand against the normal annual cut of about 10 billion feet, which helped explain why it seems financially preferable to some owners to operate under extremely unfavorable market conditions when by so doing it is possible partially to offset this annual carrying charge, even though the market price is less than the total costs, including these charges. By way of remedies he recommended: (1) some arrangement for periodically drawing up a national balance sheet of production and prospective requirements, together with a regional allocation of cut; (2) larger and stronger operating units, which, among other things, would involve mergers; (3) more permanent forms and plans for forest land management; (4) greater freedom for self-government within the industry, looking towards the control of production and which might involve some modification of present Anti-trust legislation; (5) holding public timber cutting to a minimum; and (6) pushing sustained yield plans, including coordination of public and private holdings in the West.

Additional specific remedies advocated by Dr. Compton, who spoke for the industry nationally, and by others included a frank, public declaration that there is no reason to believe that there will be a timber famine or timber shortage. Emphasis was given repeatedly to the misunderstanding by the public, which still believes that to refrain from using forest products is forest conservation, and also that previous pronouncements of threatening timber shortage are being effectively misused by the manufacturers of materials which compete with wood. Colonel Greeley, as one evidence of this, quoted from an article in the United States Daily of June 10, to the effect that Representative Dyer of Missouri plans to introduce a bill based upon a virtual shortage of lumber for building purposes, particularly the use of timber for railroad ties, which would require railroads to replace wooden ties with some substitute such as concrete or steel. This at the time, Colonel Greeley said, when Douglas fir ties are being sold for use on the Elephant Butte project at $7 per thousand feet B. M.

Particular emphasis was given to unfair foreign competition, with recommendations for embargoes against threatened inroads of Russian lumber and some degree of tariff protection against other lumber and pulp and paper importations. Some lack of agreement was evident as between different regions, with reference to needed remedies in the pulp and paper industries. The Lake States and the Northeast are in part dependent on importations from Canada and elsewhere, while the Pacific Northwest is self-supporting.

The taxation of forests under the general property tax was repeatedly referred to as a most important obstacle to proper management of forest lands. The Board was urged to use its influence towards speeding up the adoption of a system of equivalent yield taxes at the time of cutting.

Dr. Compton particularly advocated the donation of private timber lands to the Government, with the reservation of cutting rights; increased provision for research under Federal leadership; a moratorium on timber cutting requirements under Government contracts; and a continuing means of public and private cooperation for timber conservation.

Mr. C. A. Bruce, representing the Hardwood Manufacturer's Institute, ascribed the present difficulties in the hardwood industry as due not so much to current overproduction as to the accumulation of stocks, which it would take two or three years to dispose of even if all production were stopped.

Mr. E. L. Carpenter, representing the Western and California Pine Producers, emphasized the fact that the lumber industry would have to look pretty largely to itself for relief, and spoke somewhat optimistically of the possibilities, provided operators were willing to face the facts and adjust production to probable consumption. He pointed out that in the Western Pine industry there had been, generally speaking, failure to do this over a period of some years.

Mr. E. T. Allen, speaking for the Western Forestry and Conservation Association, while endorsing all practicable relief measures as facilitating an orderly reorganization of the industry in the Pacific Northwest, pointed out emphatically that in his opinion there would have to be some serious losses, involving the complete elimination of some operating units. Others felt that such wholesale wreckage could be minimized or avoided by proper relief measures, including organization for sustained yield production.

Mr. Allen also emphasized the fact that overproduction in the Douglas fir region is not new, and he quoted the statement he had prepared in 1915, which described very serious conditions of overcapacity, heavy carrying charges, etc., very much like the present.

In connection with the newsprint industry, Mr. Kellogg described the tremendous increase in producing capacity over the past 10 years which was in excess of the also large increase in consumption. He said that newsprint per capita consumption apparently hit a peak of 62 pounds in 1930, that there is some indication of a flattening out of the curve somewhere around 55 pounds, and that the decrease in size of the Sunday newspaper has been a material factor in this reduction in consumption.

Other speakers included Henry Hardtner, representing the Southern Pine Association D. T. Mason, the Redwood, Pine and Fir Timber Owners; C. W. Boyce, Secretary of the American Paper and Pulp Association, who covered the pulp and paper situation statistically from a world and national standpoint; O. M. Anderson, representing this industry in the Pacific Northwest; and W. H. Munroe in the Lake States.

FOREST LECTURER PLANTS TREES OVER GRAVES OF PARENTS

By Roy E. Miller, Washington

The honor of coming back to the home of his ancestors to plant trees in honor of his father and his mother and to deliver a memorial address where his father was once pastor of the church was paid Memorial Day to Herbert N. Wheeler, chief lecturer of the Forest Service. Mr. Wheeler spoke at Marlboro, New Jersey, where his father, the late Rev. Samuel R. Wheeler, spent the last four years of his 50 years' service as a minister.

In Marlboro cemetery the forest lecturer planted an oak in memory of his father and a birch tree in honor of his mother. Led by the example of the forester, a number of others planted memorial trees.

Mr. Wheeler has in other years planted trees at churches in Nortonville, Kans.; Dodge Center, Minn.; and Boulder, Colo., some of the other towns where his father held pastorates.

The Marlboro address was printed in New Jersey newspapers. It was an appeal for good-will and understanding among the people and the nations, coupled with a ringing declaration that all must strive for the right and for the integrity of American citizenship. At the planting he said in part:

"May these small shrubs and trees grow into sturdy plants and giant trees, fitting monuments to the loved, a hope and an inspiration to all who behold them. Too often we are destroyers, ruining the things of God's creation, but today we are builders. As these trees push their way to the sky we can say with the poet:

"O beautiful trees, O wonderful trees,
Backward and forward you sway in the breeze,
A haven of refuge for birds in the glade,
While children of men repose in thy shade."

WOMEN'S CLUBS INTERESTED IN FORESTRY

By Marie Heisley, Washington

The General Federation of Women's Clubs which in years past has done splendid work for forest conservation is still actively interested in the subject. According to its of work for 1931-1932 some of the objectives of its Department of Conservation of Natural Resources are the further development of recreational resources of the National Forests, education in forest fire prevention, and the planting of trees for the establishment of Federation forests, highway beautification and memorial purposes.

The following resolution, framed by the National Chairman for the Conservation of Natural Resources, was passed unanimously at the meeting of the Biennial Council at Phoenix, Arizona, last month:

> "WHEREAS, The members of the General Federation of Women's Clubs, while not unmindful of the economic aspects of the National Forests, are perhaps most appreciative of their potentialities for social service through the realization of their scenic inspirational, educational and recreational values, and
>
> "WHEREAS, This phase of National Forest use and service is increasing in importance with each passing year, and already its importance within certain limited areas transcends that of forms of industrial utilization, and
>
> "WHEREAS, There is a rapidly growing field for the more technical treatment of the National Forest areas of outstanding public value for these social purposes, for more intensive planning and development through which their values adequately can be safeguarded and their full possibilities of service realized by the public; therefore
>
> "BE IT RESOLVED, That in recognition of this development, the General Federation of Women's Clubs approve and endorse legislation and the enactment of laws which will establish more definitely the place of the scenic, inspirational and recreational qualities of the National Forests in the plans for their administration, and would permit of their more intensive technical development; and be it further
>
> "RESOLVED, That a copy of this resolution be sent to all Congressmen and to the Chairman of the Senate and House Public Lands Committees."

The National Chairman of Forestry is working for a Federation forest in every State, each to be dedicated to some person esteemed by the Federation. She also urges the Clubs to carry forward educational campaigns against forest fires with greater zeal.

The General Federation of Women's Clubs went on record as planting the first George Washington Memorial Tree in the American Tree Association's campaign. The planting was made in Denver during the Convention of June 1930. This act will probably be duplicated by most of the 14,000 clubs belonging to the Federation.

TWO CASES IN WHICH TIMBERLAND BROUGHT BIG RETURNS

Voluminous reports of sales and purchases of private stumpage since 1900 in all parts of the country are being checked and tabulated by the Division of Forest Economics. Many interesting transactions are noted, the following being good examples.

In 1905 a tract of about 400 acres of virgin hardwood timber estimated to run about eight thousand feet to the acre was bought in a southern State for $6.50 an acre. The purchaser held the tract for eleven years and sold it in 1916 for $50 an acre. While no information is available concerning the amount of taxes paid during the interim between buying and selling, the appreciation in value from $6.50 to $50 per acre in eleven years seems to indicate a pretty fair return on the investment. With 20.4 per cent compound interest, $6.50 in eleven years becomes $50, which would seem to provide for taxation and other expenses such as fire protection, if there was any, and still leave a substantial margin of profit.

In 1901 a tract of 2,240 acres with an estimated stand of about 12,000,000 feet of virgin cypress and Mississippi River bottomland hardwoods was purchased for a lump sum of $3,862. In 1912 the same tract was sold for $26,880, and again in 1917 for $57,000. With 18.7 per cent compound interest, $3,862 in 16 years becomes about $57,000, indicating a return on the original investment, which is comparable to the first transaction noted.

It cannot be assumed that these instances are indicative of average returns for this period but the transactions are cited merely as an interesting account of what happened in these particular cases. - Henry B. Steer

DON'T KICK YOUR CAMP FIRE AROUND THE FOREST

By Arthur "Bugs" Baer

No matter how many forest fires are raging in this country the waiter always brings in your asparagus cold.

On the first nice Sunday in April they reported forty-eight timber fires in New Jersey alone. All of them were started by tin-can tourists who think it is nice to cook a meal in the woods.

They wind up by cooking the meal, the woods, the houses and themselves.

The Government has forest rangers spotted on towers to watch for suspicious smoke among the trees. But what can they do against thousands of tourists who want to cook every egg in every bird nest for miles around?

We imagine that when a camper has an enjoyable day in the mountains he says to himself, "This is a nice spot. I'll just leave my camp-fire burning so I will have a landmark to guide me next Sunday."

Then he wheels home and wakes up at midnight to find his bungalow ablaze from consomme to demi-tasse. His camp-fire has chased him home.

Dropping matches, cigars, cigarettes, hot stoves and short-fused bombs are other splendid ways of incinerating the landscape and scorching the horizon.

They usually blame it on the glowworms and the lightning bugs. The farmers suffer from our week-end excursionists and their torchlight parades through the Poconos, the Appalachians and the Adirondacks.

We don't say the Sunday tourist is an actual pyromaniac.

But he's a darned good substitute until the real pyromaniac comes along.

When you drop a lighted cigarette in the woods stamp on it. Don't fan it with your hat. If you had a camp-fire in the early evening, pour water on it. Don't kick it around.

Why eat at all in the sticks? Or if you must cook the hot biscuits and the sizzling gravy, why not camp out in the petrified forest? - (Universal Service)

YE EDITOR DISCOVERS

While in the South recently Fred Morrell noticed what to him was a novel and interesting use of pine tree products, and we believe that there are others who might like to know about it.

In the old Florida Parishes of southeastern Louisiana and in southern Mississippi, considerable acreages of pine lands are reserved especially for the purpose of gathering pine needles, or pine "straw" as they are called throughout the South. This pine straw is used, either by the owners of the land or by others who have leased the land for this purpose, for spreading over strawberry beds in order to keep the berries out of the sand, thus greatly improving the quality and value of the berries. The pine straw is gathered in the spring after the needles fall, and its yield depends on the size of the trees and the condition of the stand. On an average, about one acre of pine land will furnish enough pine straw to cover two acres of strawberry bed.

The owner of a good piece of pine land can therefore realize several dollars a year, if he chooses to lease his land for this purpose. One farmer in the big strawberry region in southern Mississippi received a net price of $5 for straw, which was clean and easily raked, on about an acre of thrifty trees.

- - - - - -

Members of 4-H Clubs from 40 States were in Washington last week for the fifth annual national 4-H camp. Of the 156 campers and their leaders, six were awarded their trips to Washington for outstanding club work in forestry. They were: David Campbell, Hillsboro County, New Hampshire; John B. Folsom, Rockingham County, New Hampshire; Alice Lee, Morris County, New Jersey; Ralph Suggs, Gaston County, North Carolina; Arlow B. Wilson, Trumbull County, Ohio; and John Arthur Tasker, Windham County, Vermont. Charles Z. Bates, Extension Forester in Porto Rico also attended the 4-H camp.

- - - - - - -

"The woods most used in American excelsior manufacture," says the Forest Products Laboratory, "are cottonwood, aspen, basswood, and yellow pine. Also used to some extent are red gum, willow, yellow poplar, and buckeye."

- - - - - - -

The 1931 Yearbook for the Department of Agriculture, recently off the press, contains 20 articles by members of the Forest Service. These articles are brief, snappy ones appearing under the general title "What's New In Agriculture." The contributors were: Albin G. Hamel, R. 9; E. H. Frothingham, Appalachian Forest Experiment Station; A. B. Hastings, Washington office; E. W. Tinker, R. 9; L. F. Kellogg, Central States Forest Experiment Station; Theodore Shoemaker, R. 1; A. O. Waha, R. 6; H. G. Meginnis, Southern Forest Experiment Station; W. L. Dutton, R. 6; L. A. Barrett, R. 5; R. W. Ayres, R. 5; John C. Kuhns, Whitman Forest; C. B. Morse, R. 4; H. E. Schwan, Madison Forest; C. J. Telford, Forest Products Laboratory; John B. Cuno, Forest Products Laboratory; Quincy Randles, R. 3; W. R. Mattoon, Washington office; John H. Hatton, R. 2; and W. K. Williams, Washington office.

- - - - - - -

Miss Irene Haas, of Tampa, and John Bill 3d, of Sanford, winners of the forestry medals presented to school children of Florida by the American Forestry Association, for the best essay on forestry subjects, were guests of the association in Washington last week. During their visit they were presented, at the 4-H encampment, with the medals, bronze reproductions of the General Sherman Big Tree.

More than 5,000 children competed in the contest in Florida, and similar contests are being carried on in other States, Alaska, and the District of Columbia, under the direction of the American Forestry Association.

- - - - - - -

Bert R. Lexen of the Office of Forest Measurements is being transferred to the Southwestern Forest Experiment Station effective August 1. He has already left Washington to take up a summer course of study in research statistical methods at the Iowa Agricultural College, under Dr. R. A. Fisher of the Rothamsted Experiment Station, before going to the Southwest. Dr. Fisher, who is one of the world's outstanding authorities on the use of statistical methods in agriculture, visited Washington recently and while here became much interested in some of our mensural work. He expressed considerable surprise at the extent to which statistical methods are being used in forest measurements, and gave particular attention to the question of volume and yield tables.

- - - - - - -

Emily Bauskett, clerk in the Branch of Lands, has received a degree in law from Columbus University Law School, and is now taking the examination for admission to the bar in the District of Columbia.

REGISTER HERE -----PLEASE!

A suggestion which may serve to combat thoughtless vandalism

(From Canadian "Forest and Outdoors")

The boyish urge to whittle and carve is hard to resist, but the urge is not confined to the boy--the female is as deadly as the male in this respect.

It seems to have had its origin in the little red school house. The boy must leave his record for all to see in the years to come. He goes to the park, and we find his registration on the park benches. He camps and painstakingly leaves his record on a tree. The beech, birch, and poplar are temptingly smooth. He proudly surveys his handiwork. He thinks he can improve on it and does it again in larger Romans this time. Another brilliant idea comes to him. He'll write his best girl on native paper. A beautiful birch tree gives freely to meet Johnnie's needs. Other boys or girls pass by. They conceive the same idea, and away goes another patch of bark--what a nasty scar it leaves! Nature smiles just a little less warmly. Vandalism has entered to mar her harmonies. The slim birch in her early days, before man built a road nearby, was the most beautiful tree in those parts--the belle of the tree world, filled with grace and a joy for all to behold--but now so marred and disfigured that she will bear her scars to the end.

An increasing appreciation of beauty and a growing love of Nature's works would create an understanding of what constitutes vandalism. Most destruction in the woods is caused by lack of knowledge of result following upon the performance of an act. Too much carving may result in completely girdling the tree, thus, by interrupting the flow of ascending mineral food from the roots and descending elaborated plant food manufactured by the leaves, killing the tree.

Canada's Junior Forest Wardens, being organized by the Canadian Forestry Association, will be asked to do their share in the forest education of other boys. There are also other ways in which protection may be given the great number of prepared camping sites springing up all over the country. Place a registration post at each campsite. Paint it a nice white so that initials will stand out boldly. Surround it with three or four spruce trees, and post a sign---REGISTER HERE PLEASE.

The ranger might go a step further, and besides providing the usual firewood for the weary traveler, also provide some paper birch of about post card size for those who cannot or will not resist the urge to write home on birch bark. The ranger can secure this supply from felled or dead trees.

PARK SERVICE ANNOUNCES POLICY FOR RESEARCH AREAS

Like the Forest Service, the National Park Service now has announced the adoption of a definite policy of preserving research reserves inside National Park areas.

In these research areas, which will be located in isolated sections of the Parks where they will not interfere with the administration of the Parks or with park use by the public, it is proposed to maintain conditions unmodified and free from external influences of any sort, for the purpose of making scientific studies of their geologic and biologic exhibits. Admission to these areas, whose location will not be announced generally, will be by special permission only.

Two such areas already exist, one in the Yosemite, the other in the Mount Rainier National Park.

WILL YOU EVER RETIRE?

Most of us look on retirement as something that somebody else does. The women figure they will get married and quit, and the men that they will get a better job outside the Government service. Let us take 1930 as a basis and see how many are right in their guess as to the future. In 1930, of every hundred leaving the service, 91 resigned or died, 6 retired because of age, and 3 retired because of total disability. If you are one of the 91 your retirement deductions are a nice savings account; if you are one of the six they will keep you out of the poor house or, worse, from the charity of relatives; if you are one of the three they are pretty cheap insurance. Whatever group you eventually end up in, you cannot lose. - R. P. A. J. in Forest Products Laboratory Bulletin

WHITE PINE IN THE SOUTHERN APPALACHIAN

There is still standing in North Carolina more virgin white pine than in all the other Southern States combined. Because of adequate fire protection, particularly in the section around Asheville, white pine is also coming back - reclaiming abandoned fields and holding its own in reproduction wherever the understory is not rhododendron. The Grandin tract of virgin timber located in Wilkes, Watauga, and Caldwell Counties, containing about 50,000 acres, will average 40 per cent white pine. It is estimated to contain 125 million feet of virgin white pine. All through the section of western Watauga and Avery Counties west of the Blue Ridge there is evidence of white pine coming back to be a valuable part in future timber stands. On the slope of Rowan Mt. not far from the Tennessee-North Carolina line is the second large stand of virgin white pine. Here on a 5,000 acre tract there is a stand of 5 million feet of pine. - The Blister Rust News for May

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER Theodore Roosevelt

Vol. XV, No. 27 Washington, D. C. July 6, 1931

THE KAIBAB DEER HERD

By C. E. Rachford, Washington

"There exists an urgent need for reducing the present number of deer in the Kaibab area to a point much below the present limited carrying capacity of the range and maintaining the deer herd at such a level until such time as the various species of shrubs and young trees upon which the deer depend for browse are reestablished." By these words the committee appointed by the Forester to make an investigation of the conditions existing on the Kaibab National Forest confirms statements which have been made by members of the Forest Service since 1920, but which have been repeatedly contradicted by interested individuals and organizations.

Definitely to settle the differences in points of view and to bring national organizations interested in wild life and related subjects into the picture, the Forester suggested the selection of a committee made up of representatives of such organizations to conduct an examination of the area. The invitation was accepted by some 12 organizations, and the examination was made from June 8 to 15, 1931. It will be recalled that this is the second committee making such an investigation, the first having greatly clarified the situation in 1924. Some six years had passed since the previous examination, and in the meantime many complaints to the effect that the Kaibab deer herd was being exterminated have been received. The report of the second committee should go a long way toward answering such charges and enable the Forest Service to proceed more rapidly and efficiently in the carrying out of its plans.

During the past ten years many investigations have been made by the most competent authorities in the Biological Survey and the Forest Service, but it is recognized that no individual or organization has a monopoly of the knowledge pertaining to wild life. The Forest Service therefore welcomed a review of the Kaibab situation by a committee including members outside the Government service. The suggestion for the appointment of a committee met with hearty response, and an imposing array of talent, as indicated by the following list of the members, carried on the investigation:

Dr. T. Gilbert Pearson,	National Association of Audubon Societies
	(American Game Association
George D. Pratt,	(American Forestry Association
	(Camp Fire Club of America
Mark Anderson,	Izaak Walton League of America

Joseph S. Dixon,	National Park Service
Dr. E. Raymond Hall,	American Society of Mammalogists
K. C. Kartchner,	Arizona Game & Fish Commission
J. M. Macfarlane,	American National Livestock Association
A. A. Nichol,	(University of Arizona (Arizona Game Protective Association
Paul G. Redington	U. S. Biological Survey

The committee was accompanied by officers of the Forest Service, Biological Survey, National Park Service, and representatives of the University of Arizona, the National Woolgrowers Association, and cattlemen in the vicinity. A total of 28 individuals was present during all or a portion of the investigation.

The report of the investigation indicates that the committee traveled approximately 650 miles in the eight day period June 8 to 15, and observed practically every forest type and condition within the area. That the investigation with such a large number of people present could be conducted in such a short time demonstrates careful planning and speaks well for our road and transportation facilities.

The report discusses briefly the topographic features, elevation, and forest and range types, and describes the area as "bounded on three sides by cliffs which almost everywhere are wholly inaccessible, and on the remaining side an inhospitable desert completes the total isolation of the area so far as the big game of the region is concerned." The report states that although 15,000 cattle and horses and some 5,000 sheep, were grazing on the area in 1913, domestic animals now grazing on the area "have been reduced to almost insignificant numbers, considering the size of the area."

One of the main causes for the general misunderstanding of the situation is explained in the following extract from the committee's report:

"It is a curious fact that there are some regions on the Kaibab where forage for deer still persists to considerable extent that is little utilized by these animals. The mule deer is very local in its range, and many die of starvation within a few miles of food that might be secured if they would only travel a short distance away from their natural habitat. For example, this is especially noticeable on the northern part of the Kaibab Plateau which is traversed by the main road over which visitors usually come into the Kaibab. A traveler entering from the north may see beside the road areas of cliff rose bearing leaves within reach of the deer. Also here and there are patches of locust, oak, and even a limited amount of low aspen. The casual visitor, therefore, may readily get the erroneous idea that there is still much forage for deer in the entire region, and that all is well with the deer. This idea is further accentuated when the large number of deer are observed feeding in the meadows of VT and Little Parks.

"One must go back into the Forest and down onto the winter range areas to get a real appreciation of the general lack of forage. Absence of sufficient water is one of the reasons why the deer do not use the north end of the Plateau in summer. The mule deer seem to have very fixed habits of going to certain areas for winter, regardless of whether or not sufficient forage is available."

For many years the Forest Service has held that numbers of all classes of animals on an area must conform to the productive capacity of that area. The principle is definitely recognized in the following statement in the committee's report:

"It is desirable to have as many deer within the Kaibab Forest as the available forage supply will permanently support, not only that these deer may serve as a great tourist attraction, but in order that the surplus may be utilized by man."

Perhaps the committee's most significant statement concerning the present condition of the range is contained in the following paragraph:

"It is the conclusion of the committee, after carefully reviewing the general condition of the Kaibab range, and also observing the degree of recovery within the fenced experimental plots, that the Kaibab area is not now producing more than 10 per cent of the available and nutritious forage that this range once produced."

The causes responsible for the condition are also described:

"No doubt the entire accessible Kaibab area has suffered at least two periods of severe range depletion; first, by domestic grazing animals, and then by deer. In the words of a financier, the capital investment, which in this case is the forage, has been used up almost completely.

"The forage of the entire Kaibab area is yet in a deplorable condition and with the exception of the east side winter range, it is doubtful whether there has been any considerable range recovery due to the reduction of the deer herd. It is believed, however, by those who have studied Kaibab conditions over several years, that in places there is a slight suspension of range deterioration because of the reduction of the deer and domestic stock.

"The committee considers the total lack of aspen reproduction, the continuous browsing of conifer species, and the deterioration of the best remaining browse species an indication that the deer are still so numerous as to make range recovery impossible. We, therefore, recommend that supervised hunting be continued and a removal not less than that of last season, including both sexes, be effected this fall by licensed hunters or by other legal methods.

"The depleted condition of the Kaibab range is due to overgrazing by both domestic stock and deer, but the cattle and sheep have been reduced to almost insignificant numbers, considering the area of the range. Cattle and horses are mainly grass eaters when grass is available. Deer, on the other hand, prefer weeds and browse. There is, however, conflict in the use of forage as between cattle and deer when utilization is carried to the extreme. Cliff rose is one of the valuable and originally abundant browse species that has suffered greatly from a double use by both deer and cattle on the winter range of the Kaibab. It is desirable, therefore, as a measure of range restoration, to eliminate unauthorized cattle as well as to reduce the deer to a point where these choice browse species will be able to recover. It is also apparent that if overgrazing continues, the aspen forest type will ultimately disappear from the Kaibab Plateau. There is practically no aspen reproduction anywhere now. A very few yellow pine seedlings are 'getting away' out of reach of the deer. Conifer reproduction within the Kaibab, under present conditions, is virtually impossible. Practically all pine, spruce and fir reproduction has developed a peculiar Kaibab form, due to repeated browsing of terminal buds by the deer."

The report of the committee emphasizes the close biological relationship between the Grand Canyon National Park and the Kaibab National Forest and the importance of close coordination of administrative policy. It points out that range depletion is generally as serious within the National Park as within the adjoining Kaibab area. In the opinion of the committee as much interest should be displayed in the perpetuation of the flora as in the preservation of the fauna, for "overgrazing ... must be corrected if the plant life ... is to be restored to anything like a natural condition, and of course it must not be forgotten that all animal life is either directly or indirectly dependent on plant life."

The examination impressed the committee with the close relationship between forest management and game management. In its own words: "Game can not exist without subsistence and cover. Range destruction means game destruction... Game preservationists, to be consistent, must oppose overgrazing by game as strenuously as they have opposed overgrazing by sheep and cattle. Overgrazing by game is certain to defeat the objects of both forest and game conservation."

The committee recognizes the rapid increases in numbers of big game animals on many

National Forests as a new and perplexing problem, but foresees nothing alarming in the situation "if sane management and control measures can be developed and applied before serious range injury results."

The report indorses control of numbers of game animals by regulated hunting and encourages cooperative plans such as those now in effect between the Forest Service and the State of Arizona. In the opinion of the committee there is also a need for more coordination and cooperation among Federal Bureaus concerned with the biological and economic problems affecting the management of Federal lands and the plant and animal life produced thereon. Expansion of research through the use of facilities and personnel of State colleges is recommended.

The final recommendations of the committee may be summarized as follows:

1. Additional man power for the proper field administration.
2. Limited use of the range by local stockmen, but no increases in domestic stock while the range is in a depleted condition.
3. Reduction of the present number of deer on the Kaibab to a point considerably below the present limited carrying capacity of the range, and maintenance of the herd at that level until such time as the various species of shrubs and young trees are reestablished.
4. After range is restored to its original productivity, allowance of such increases in the number of deer as the natural food supply may sustain.
5. Leaving undisturbed on the area all forms of natural wild animal life other than deer, except for scientific purposes or where serious damage to private property is being done.
6. Continuance of suspension of State and Federal predatory animal control and closure of the area to private trapping and hunting of flesh-eating animals until adequate reductions of deer are made.

Obviously the report of the committee is most gratifying. It marks a milestone in cooperative action, proves the soundness of the Forest Service policy, and indicates the need of extending the plan to the many other areas where similar conditions may or do exist.

PRIMITIVE AREAS A DARK SECRET?

By Jno. D. Guthrie, R. 6

Mr. Kneipp has rather left the pasture gate wide open on pitiless publicity for primitive areas (Service Bulletin of March 2, 1931).

Why are forest lands being set aside as primitive areas? Not for Forest officers - For the public? Assuredly. Not necessarily for all the public, for all the public is not interested, but for that part of the public - a minority it is true - who like it rough and au naturel. The Majority like the winding road (and the less winds the better), the prepared campground, the populous summer lake shore resort, where there are folks and fun and jazzy music(?).

We have lots and lots of places already fixed up for these folks, - and are fixing up more every day.

But the Inarticulate Minority, who don't like these things - what is for them? Is there any provision in the National Forest scheme of things for them? Where can they go? How can they get there? Have this Minority any rights or privileges? Aren't they American citizens too? Hasn't some of their money gone into the roads, the improved campgrounds, the easily-graded trails, which the Majority use and seemingly enjoy?

About all the Minority have left are the back-country, and high places, the quiet mountain meadows, the wind-swept peaks, the lonely trails across the ranges. These things are just what they want, and long for, and plan for, all winter long.

So far, so good - But how is the true nature-lover, the hiker, one of this Inarticulate Minority, to know that we have set aside a sanctuary for him, unless we tell him? How are we going to, - how can we, tell him? We can't tell him individually. The next best way would seem to be to give the Primitive Areas some publicity. Not blatantly, but put the information on our Forest map folders - on the map, and a description on the back. Include it in our other forms of recreational publicity.

Primitive Areas, as a rule, are so inaccessible, so rough, so devoid of good trails, that the mob, the hoi polloi, is not apt to overrun it, trample it down and desecrate it, because the hoi polloi won't make the physical effort to get into a Primitive Area; they don't want exercise (other than shifting gears), and they don't like roughing it.

HIGHEST MOUNTAINS

By M. L. Merritt, R. 8

Daytonius, in the April 13 Service Bulletin, asks whether Mt. Wrangell and Mt. Crillon listed in the Encyclopaedia Brittanica as "17,500" and "over 15,000 feet" high, respectively, should be included in the list of "Thirteen Highest." The Director of the Geological Survey under date of December 13, 1930, gives the elevations of Mt. Wrangell as 14,005 and of Mt. Crillon as 12,727. Older authorities give somewhat different elevations. The "Geographic Dictionary of Alaska" published by the Geological Survey in 1906 gives the height of Wrangell as 14,000 and Crillon as 15,900. The latter, however, is obviously in error, Mt. Crillon being near to and obviously much lower than Mt. Fairweather - 15,300 feet.

Mt. Wrangell is of particular interest because it is a volcano. Other high Alaska volcanoes are Mt. Spurr - 11,050 feet, Mt. Redoubt - 10,200 feet, and Mt. Iliamna - 10,085 feet. I also have seen the elevation of Mt. Whitney as 14,502 but accepted the figure of 14,496 as correct.

Mt. Logan in Canada is reported as 19,850 feet in elevation and Mt. Lucania, nearby, as 17,150 feet.

MORE ABOUT THE "THIRTEEN HIGHEST"

In a letter to Chief Engineer T. W. Norcross, J. H. Wheat, Secretary of the Federal Board of Surveys and Maps, says:

"The map information office of the Board of Surveys and Maps has never made a compilation of a list of '13 highest peaks in the U. S. and possessions.' It has compiled and distributed a list of extreme and mean altitudes in the United States and in its outlying ossessions, a copy of which I am inclosing.

"You may note from this list that the points given are the highest and the lowest point for each State and outlying possessions. Apparently the North Pacific Ranger selected the 13 highest points in this list. Four mountain peaks named by Mr. Merritt in the North Pacific Ranger list rank in the order named in the list compiled by the M. I. O. The North Pacific Ranger's list is, of course, not correct. The State of Colorado has more than 40 peaks with an elevation of over 14,000 feet.

"The elevation of Mt. Whitney established within the last two or three years by precise level line of the Coast and Geodetic Survey is 14,496 feet; therefore, Mr. Merritt's list still seems to be an 'all-Alaska sweepstakes.'"

EXTRACTORY AT CASS LAKE COMPLETES BIG WINTER JOB

The completion, at a considerable reduction in costs, of the heaviest run of cones ever handled through the extractory at Cass Lake is reported by Region 9. The job took all winter, from October 15 to April 17, with three shifts per day. The amount and species of cones used and their yield in seed are as follows:

7,941 bushels of Norway pine cones yielded 5,693 pounds of seed
1,183 bushels of white pine cones yielded 985 pounds of seed
13 bushels of jack pine cones yielded 13 pounds of seed
58 bushels of white spruce cones yielded 58 pounds of seed

The yield of Norway pine seed per bushel of cones was approximately 50 per cent greater than previous yields and is probably accounted for by the fact that the germination test indicated that 95 per cent of the seed was good viable seed. Instead of being run through the kiln, part of the white pine cones were opened by thorough natural drying, which resulted in a decided saving in the cost of extraction.

Seven hundred and one pounds of Norway pine seed, 498 pounds of white pine seed, and 18 pounds of white spruce seed were furnished twelve States under Section 4 of the Clarke-McNary law, while 3,284 pounds of Norway pine seed were furnished New York State under a special cooperative arrangement. The cost to the States, including overhead and depreciation, was $4.25 for Norway pine, $2.25 for white pine, and $6 for white spruce.

A further reduction in the cost of operation of the extractory is expected after the completion of certain labor-saving devices now being constructed.

YE EDITOR DISCOVERS

The weather maps indicate rains in Regions 1 and 6 not merely once but repeatedly beginning shortly after the middle of June. This relief will enable the Service to pay its fire fighting bills to June 30 without resorting to some of the very undesirable expedients which otherwise would have been necessary. When the final figures are in, the costs of fire fighting and emergency guards for the period June 1 to June 30, 1931, will probably be 50 to 100 thousand dollars more than for any other spring period in the history of the Forest Service.

- - - - - -

The long drawn-out battle to prevent the Studebaker corporation from forcing the Government to purchase Studebaker trucks when, in our opinion such trucks are not adapted to our work, has ended with victory for the besieged Government forces. The Comptroller has passed on the case, and the award has been made to the General Motors Company as recommended by the Forest Service and the Department. The only consolation to be gleaned from this long drawn-out and harassing episode is that an additional precedent has been established to the effect that the Forest Service can not be compelled, even by resort to unusual methods by a bidder, to accept the low bid when the offering does not meet the specifications on which bids are invited.

- - - - - - -

Some 29 appointments from the forthcoming Junior Forester register will probably be required by the four Bureaus which draw on this register. Twenty-two appointments will be required from the Junior Range Examiner register. At this date (June 25) it is not known whether the Department will permit appointments to be made to new positions.

On June 23 Messrs. Loving and Headley appeared before the Civil Service Commission seeking certification to all four Bureaus using the Junior Forester and Junior Range Examiner registers of a block of names sufficient for all expected appointments. The Civil Service Commission had refused to certify the complete registers, as has been done for many years prior to 1930. In cooperation with the other Bureaus concerned the Forest Service offered a compromise program under which the number of names certified by the Civil Service Commission would be controlled by the number of appointments expected. Certification having been made, the same system of freedom of negotiation and contract would be employed with respect to all Bureaus which has been in effect for a number of years as between National Forest regions.

Failure to secure approval of the recommendations made to the Civil Service Commission would result in some sort of a system of certifying names to fill specific positions comparable to the method employed by the Civil Service Commission in certifying names to fill specific clerical or drafting positions. Such a system would inevitably result in appointments of men to Indian Service positions who belong in Forest Service positions, and vice versa.

- - - - - - - -

"Until a few years ago," says the Forest Products Laboratory, "almost all the pencils made in this country were of eastern red cedar (juniper), which is the best pencil wood we have. At present, however, owing to the growing scarcity of suitable juniper, less than 10 per cent of lead pencils are made of that wood. More than 90 per cent of pencil wood now comes from the Pacific Coast States, the principal species in use being incense cedar from the Sierra Nevada Mountains of California. Western red cedar is used to a small extent."

- - - - - - - -

Director E. F. McCarthy of the Central States Forest Experiment Station is resigning from the Forest Service September 1 to become Professor of Silviculture at the New York State College of Forestry.

Mr. McCarthy has been Director of the Central States Station since its establishment in 1927, being transferred to that position from the Appalachian Forest Experiment Station, where he had served for six years as silviculturist. He previously taught in the New York State College of Forestry and at one time was in charge of its ranger training school at Wanakena, New York.

- - - - - - - -

Thornton T. Munger, Director of the Pacific Northwest Forest Experiment Station has been designated as official representative of the Forest Service to attend the Fifth Pacific Science Congress which is to be held in Victoria and Vancouver, British Columbia, May 23-June 4, 1932, under the auspices of the National Research Council of Canada.

- - - - - - - -

H. J. Eberly, District Inspector, in charge of Clarke-McNary cooperation in the Gulf States, is in Washington for a month's detail to the Division of State Cooperation.

A CORRESPONDENT SUGGESTS A NEW BUT WICKED FIRE FIGHTING TOOL

"The caterpillar tractor seems to present a powerful but unused weapon to combat ground fires. The idea is developed herewith for your consideration.

"Mount a 500 gallon water tank with a power water spray on a tractor of sufficient capacity. Filter the air to a tight water cooled driver cab asbestos lined except where glass is used. This should be capable of quenching in a few minutes a line of fire 2,000 feet long by spraying 1/8 inch of water 3 feet wide directly on or close in front of the advancing flames. This could climb directly up a mountain side through impenetrable brush and by means of an oil burner back fire as it advanced. A pump attached could fill at any stream and a three ton truck could carry it quickly to any fire within striking distance of the highways."

NORTH CAROLINA LANDOWNERS MAY MARKET GAME CROP UNDER NEW LEGISLATION

(From "Conservation and Industry," official publication of the
North Carolina Dept. of Conservation and Development)

A trend toward more practical methods of providing a greater supply of game birds and animals has developed within the last few years. In effect, this development recognizes that game conservation must be made more attractive to the landowner if the agitation and educational efforts being expended are to be made more effective.

Opinions are not yet unanimous, however, as to the best methods for attaining this objective. Colonel J. W. Harrelson, Director of the Department of Conservation and Development, who has devoted considerable time and study to the subject, was successful in having the 1931 session of the General Assembly pass a bill putting into effect in the State a plan which he had worked out.

The title of the new law is "A bill to be entitled an act to provide better hunting in North Carolina and to give landowners in North Carolina revenue therefrom."

Briefly, the new statute gives a definite legal status to organized hunting grounds developed by groups of landowners. It provides that the minimum area recognized under its provision shall be 3,000 acres. As a requirement to recognition, the bill provides that "owners of lands included in a hunting ground formed under this act must organize, adopt rules and regulations for the operation of said hunting ground, and be recognized by the Department of Conservation and Development before such hunting grounds are put into operation under this act.

The department is authorized under the act to "recognize, list and assist the owners in protecting their lands which are a part of public hunting grounds organized under this section of the North Carolina Game Law."

Authority is given to the organization to make a charge of not to exceed four dollars per day as a fee for hunting on the area within the prescribed grounds. The owners may also charge for dog hire when furnished at the request of the hunter.

Special protection is given to the organization in the form of a stiff legal penalty for anyone evading the specified fees. Another form of assistance which the Conservation Department may extend is in furnishing posters at cost for use around the hunting grounds.

ERRATUM

Mr. Marsh wishes to change the statement "even if all production were stopped" at the end of the ninth paragraph of his article "High Lights of the Timber Conservation Board Meeting" (p. 2, June 29 issue of Bulletin) to read "with consumption 5 per cent in excess of production."

DOES THIS SOUND LIKE OLD TIMES?

Here is one case where the proposal to take some land out of a National Forest brought a howl from the local community. Says the Altadena Press of June 4:

"WHY SHOULD 65 ACRES OF ANGELES NATIONAL FOREST BE INCLUDED IN THIS PROPOSED ANNEXATION TO PASADENA?

"Has 'Uncle Sam', the United States Government, become so impoverished as to no longer be able to care for government-owned lands of our National Forests?

"If so, what is to become of our all too few free public recreational areas?

"Are things to be bartered off for political favors to the detriment of the people?"

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 28 Washington, D. C. July 13, 1931

WHAT ARE THE LARGEST TREES IN THE WORLD?

By Harry D. Tiemann, Forest Products Laboratory

Information concerning dimensions of trees which were felled or destroyed long ago, unfortunately is mostly inaccurate or very questionable, particularly in regard to heights. As a rule, heights are estimated by eye or guessed at. Quotations of trees from 400 to 500 feet in height are largely fabulous. Stump measurements are more to be relied upon because the stump remains years after the tree has been destroyed and can often be verified. Volumes are to be considered as reasonably reliable only where the tree has been utilized for lumber or has been actually measured.

In height the outstanding species are the redwoods (*Sequoia washingtoniana* and *sempervirens*). Douglas fir (*Pseudotsuga douglasii*), and the eucalypts (*eucalyptus* many species) Australia. In basal diameter the redwoods are preeminent as a class, although certain individual trees of several other species appear to exceed them. The Kauri (*Agathis australis*) of New Zealand, the Baobab (*Adansonia digitata*) of Africa, cypress (*Taxodium mucronatrum*) of Mexico, and the Jaquitibá vermelho (*Couratari estrellensis*) of Brazil frequently reached large size.

As to volume, supremacy appears to lie between the Kauri and the California redwood.

Height

The tallest eucalyptus of authentic measurement was that of a "mountain ash" (*E. regnans*) in Colac, Victoria, 346 feet. There is no living tree that high so far as known. This one was felled many years ago.

Present tall eucalypts measure 300 to 310 feet in height. Undoubtedly, there were taller trees in the past but no authentic record is now available.

The tallest known redwood is one still standing in Bull Creek Flat which fairly reliable measurement places between 359 and 368 feet. Taller ones may have existed but there is no record. Contrary to common opinion, the Douglas fir seems to hold supremacy over the redwood. Mr. E. T. Allen is said to have measured a felled Douglas fir in 1900 which measured 380 feet by a steel tape.

There is an unsubstantiated record of a Douglas fir, felled near Vancouver, B. C., 15 or 20 years ago alleged to have been 417 feet high with a stump diameter of 25 feet.

The diameter is substantiated by a photograph, but the height figure has not been positively established. If correct, it was by far the tallest tree on record.

Stump Diameters

Living redwoods run up to 30 feet in diameter at the ground, but this is exceptional and they have a great root swelling which renders measurements misleading. Some deceased trees appear to have been larger. In the Calaveras Grove a tree felled in 1853 measured 25 feet diameter inside the bark 6 feet above the ground. Forty-nine people danced on the stump. It was but 302 feet high. Another fallen tree in this grove, called "Father of the Forest" had a circumference at the base of 110 feet and is estimated to have been 400 feet high (no measurement).

The great cypress at St. Maria del Tule, Mexico, has a diameter at the ground of 40 feet; at 5 feet above the ground it is 35 feet. Its height is about 150 feet.

The largest living Kauri tree in New Zealand measures 24 feet in diameter. Several are 22 feet. There is no root swelling in these trees and the trunks are very round so the diameter measurement is more significant than in swelled and buttressed trunks.

The great Jaquitiba trees in Brazil measure up to 23 feet in diameter and 150 feet high.

A New Zealand newspaper clipping states that there is a chestnut tree in Sicily 60 feet across -- being the largest tree known, that the Mexican cypress and Oriental plane reached 40 feet, and that these put the Baobab and California big trees in the background. This clipping evidently refers to the "Tree of 100 Horses" at the foot of Mt. Etna which was reputed to be the largest tree in the world. I have no confirmation of the figures. The Dragon Tree of Orotavia (Dracaena drago) was well known in the Fifteenth Century. It was a palmlike tree of the lily family, similar to our southwestern yuccas, but of immense size. Von Humbolt (1799) stated that it was 12 feet diameter 10 feet above ground and over 16 feet several feet above roots. The height was only 69 feet. It was destroyed in a storm in 1868.

The African Baobabs (Adansonia) run up to 34 feet in diameter, but are relatively very short. The Banyan (Ficus religiosa or Ficus indica) has many trunks and therefore spreads over an immense area like a forest. One tree on the Nurbudda River, Western India, measures 2000 feet in circumference of its manifold trunks, of which there are 350 large and 300 small ones. A famous Banyan in the Botanical Gardens, Calcutta, has a main trunk 50 feet in circumference and 200 manifold trunks.

Volume

It is difficult to say what trees have the largest volume, as volume is measured in so many ways.

The Kauri of New Zealand is among the largest, however. One tree at Tutamoc Forest, 22 feet diameter and 100 feet to the first branch is said to scale 220,000 board feet. These trees have a barrel-shaped trunk and a top like a feather duster so that there is practically no taper. Another one at Waihow, Hokiango, is said to be 66 feet circumference with a clear bole of 75 feet and to scale 195,000 board feet.

Recently a redwood tree was found in Big Lagoon, Humbolt County, which scaled by careful measurement 361,366 feet of merchantable lumber (Spaulding scale) sufficient lumber to build 22 average houses. So far as known this is the largest lumber tree in the world. However, it is only 20 feet in diameter, 5 feet above ground, and 308 feet high. The Australian eucalypts, although they have very great clear length, are slim, seldom exceeding

"BOX SCORE"

REGIONAL FIRE QUOTAS AND 1931 RECORD TO JUNE 30, 1931.

	Area burned over N.F. & Private inside .1 of 1%			Per Cent Class C		No. of extra period B.C. fires	No. of M.C. Fires	
Region	1925-29 Average	Quota Prorated	1931 to-date	1925-29 Average	1931 to-date	1931 to-date	1925-29 Average	1931 to-date
1	165,028	45,521	7,700	9.2	10	7	365	135
2	9,804	7,335	9,440	9.7	12	3	134	52
3	10,903	9,588	4,607	6.1	10	10	227	157
4	13,773	6,137	1,532	8.3	21	3	206	49
5	187,012	54,326	4,146	19.3	13	27	924	242
6	125,333	33,731	10,563	10.4	20	14	704	228
7	74,951	20,000	25,720	55.1	54	5	810	728
8	1,124	1,499	2	10.4	0	0	36	5
9	12,945	5,132	32,518	35.6	66	10	47	122
Total	600,873	183,269	96,228	17.0	29	79	3,453	1,718

CALENDAR YEAR F.F. EXPENDITURES

Expenditures					
1930	Average Annual 1925-1929	Region	Total F.F. C.Y. 1931 to-date	For Emergency Gds	No. of F.F. Guards on duty
$ 327,460	$ 679,400	1	$ 83,572	$ 5,000	0
32,925	9,457(a)	2	2,195	47	2
15,386	36,673	3	12,432	284	0
37,666	30,815	4	4,103	42	0
235,183	459,572	5	27,238	6,368	0
407,668	495,238	6	94,396	9,500	0
191,861	54,673	7	39,829	2,929	11
847	3,645	8	0	0	0
75,947	37,675(a)	9	36,520	1,976	1
$1,324,943	$1,807,148		$300,285	$26,146	14

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

8 or possibly 12 feet in diameter.

Reliable information concerning the dimensions of large trees is very incomplete. The Forest Products Laboratory would appreciate receiving information of this kind from anyone who may know of any additional trees of exceptional size.

GOVERNMENT AWARDED DAMAGES IN FIRE TRESPASS CASE

Damages to the Government by the Charlie Creek fire which spread from the lands of the Blackwell Lumber Company to the St. Joe National Forest in August, 1929, were placed at $9,312.60 by the United States District Court at Coeur d'Alene, where the case was tried June 11 to 19. The sum awarded is held to cover the cost of fighting the fire on the National Forest, and also to represent the value of young growth destroyed. The case, according to foresters, is notable, inasmuch as it measured the value of the young trees to the Government by the cost of protecting the area until the stand is restored. The case is also said to be a test of the merits of the Idaho Forest law, enacted in 1924.

The Government charged general negligence of the Blackwell Company in allowing its fire to spread from its land to the National Forest, special negligence because of failure to pile and burn slash concurrently with cutting of trees along its logging railroad, failure to dispose of slash on horse trails and rollways concurrently with cutting timber at these places, and negligence in operating an oil burning locomotive without a spark arrester. It also charged negligence in violating the provisions of the Idaho Forest law of 1925 relative to slash disposal on logging road rights-of-way.

The court upheld as a principle that it was the duty of the Government to protect its property when in danger, and that it was in no way obligated to wait until private owners had taken action.

Twelve witnesses appeared for the Government, and 15 for the Blackwell Lumber Company. Two days were devoted to the preliminary interrogation of witnesses, and 7 days for submission of testimony before the court. Technical experts in forestry were among the witnesses. Judge Charles C. Cavanah was the presiding judge.

- - - - - - - - -

The Charlie Creek fire started on August 12, 1929, in logging slash along the Blackwell Lumber Company logging railroad on Charlie Creek, south of Emida, Idaho. It burned approximately 2,284 acres, over 700 of which were St. Joe National Forest land. The Government area was covered chiefly with white pine reproduction averaging 38 years old. About 300 fire fighters were employed in putting out the blaze which was finally subdued, several days later. - R. 1 News Release.

FOREST FIRE AS A ROCK DISINTEGRATING AGENT

By H. T. Gisborne, Northern Rocky Mountain For. Exp. Sta.

The conventional list of the forces which result in the breaking and pulverization of rocks usually includes the following (from Hilgard): - Effects of heat and cold on rocks, effects of freezing water, glaciers, flowing water, wave action, winds, and sand storms. Usually the effects of heat are attributed solely to solar radiation and insolation. The great heat of forest fires does not seem to have been considered as of sufficient importance to warrant inclusion in such lists.

It has been found, however, that very appreciable scaling and fracturing of granitic rocks in northern Idaho have resulted from the burning of dead trees which had fallen years ago. In one instance, marked scaling of a huge boulder occurred where a section of a large tree close to it had partially burned; another burning stub by its heat of combustion fractured the fresh rock chips nearby; a rather large rock segment was broken off by the burning of another windfallen tree; and in another instance the burning of a tree top in the crotch of a broken boulder resulted in breaking this boulder into numerous segments.

There are numerous evidences that fire has been of universal occurrence, and fire records of the last half century show that forest fires are still frequent and widespread. Possibly the action of these forest fires upon rock masses on the surface is as important as the action which results from other causes conventionally listed in the texts on soil formation.

ACTING SECRETARY DUNLAP CONGRATULATES ZON ON HIS THIRTY YEARS OF SERVICE

Mr. Raphael Zon,
Director, Lake States Forest Experiment Station,
St. Paul, Minn.

My Dear Mr. Zon:

Departmental records show that on July 1 you will have completed 30 years of service in forestry work as a member of the former Bureau of Forestry and now the Forest Service. During this period you have witnessed many changes and have seen forestry develop from scarcely more than an idea into an important and necessary feature of our national economy.

This great change has not come about of itself, but through the inspiring leadership of those who, envisioning the future, early devoted themselves to what was then the new profession of forestry. Among these who have had a leading part, your influence has been particularly helpful in the framing of policies and in meeting problems growing out of the development of the Forest Service.

Your keen insight, high ideals, and spirit of public service have greatly aided in making forestry what it is today. This is particularly true in the field of forest research, as your influence gave the initial impetus to research in forestry, and the establishment of our forest experiment stations

I desire to congratulate you on your thirty years of achievement and successful career in forestry, and to wish you every further success.

Very sincerely yours,

(Sgd.) R. N. DUNLAP

Acting Secretary.

THE TRES PIEDRAS-VALLECITOS WORKING CIRCLE

The Forester recently approved a management plan for the Tres Piedras-Vallecitos working circle on the Carson Forest. In some respects conditions on this working circle resemble those on the Region 7 and Region 9 Forests created out of purchased land, because a large part of the accessible timberland was cut over prior to the creation of the National

Forest, was cut hard, and lost much of its remaining young growth because of fires. Then some fifty thousand acres have been cut over under National Forest sales. In addition over fifty eight hundred acres was cut over while owned by a lumber company, but has since been acquired under the General Exchange Act. This acquired land did not burn over and has good reproduction; but it was so hard cut that it can not take its logical place, based on topography, in the development of operations during the second cutting cycle. The immediate job on the working circle is to spread the remnants of the present mature loggable timber over the period which must lapse until a second cut can be made on past National Forest sale areas and on the best of the areas cut over in precreation days. In other words, the forest must be rebuilt by the accumulation of real "growing stock" while a small local timber producing industry is stabilized.

The cutting cycle is considered to be 75 years, of which 20 years have already passed. This latter assumption is based on the fact that the extensive operations on National Forest sales began between 1910 and 1915.

A small average annual cut is indicated for the next half century. When the full productive power of the land in this working circle becomes available, however, a sustained yield of not less than 10 times the present allowable average annual cut should be possible. This will be the reverse of many of the western working circles which now have large surpluses of mature timber and a deficiency of the young age classes from which the cut in the second and third cycles must come. In these more usual cases the disposition of the surplus of mature timber during the first cutting cycle gives a larger allowable average annual cut than can be maintained permanently, on the basis of that future cut equaling the estimated permanent growing capacity of the lands. - E. E. Carter.

SPEAKERS GETTING GOOD RESULTS

Cooperative forest fire protection is popular in the State of Washington and crowds turn out to hear the "forest and waters" message of State and Forest Service officials. W. V. Fuller of the State division of forestry and George E. Griffith of the Forest Service are having a busy season meeting and addressing enthusiastic throngs.

About 800 persons heard the illustrated talks in the vicinity of Chelan. Wenatchee and Yakima also welcomed them. The motion picture "Forest Fires, or Game?" a fishing picture based on a poem by Ben Hur Lampman, well known newspaper writer of Portland, and other reels preceded some of the lectures. Colored lantern slides of the Northwest woods and streams fascinated even those most accustomed to outdoor life and scenery.

Mr. Griffith found ready response to his appeal to stop forest fires by the quickest and most thoroughgoing methods provided by Federal State, and private co-operation. In turn the community people were highly praised by the officials for organizing local squads for fire fighting in periods of extreme danger, such as the present extremely dry season in the Northwest.

Regional Forester C. J. Buck has received many letters of commendation from school officials and civic leaders for the useful services rendered by the speakers. - R. E. Miller.

YE EDITOR DISCOVERS

During the latter part of April the Santiam Forest was visited by a gale of hurricane force which laid low several millions B. F. of fine timber and caused the heaviest damage to roads, trails, and telephone lines of any year on record for this Forest, according to "The Santiam Patrol." Maintenance crews report from 130 to 170 trees across the trails in mile sections.

It will be some time before the damage done is known, says The Santiam Patrol, but reports received from various districts of the Forest indicate that the blow-down will run into the millions of feet and seems to be in scattering patches from a few acres to 40 or 50 in some places. The greatest damage seems to have occurred in sheltered spots at lower elevations, on slopes that were apparently protected from heavy wind. Practically all this timber had fallen down hill, which seemed to be the prevailing current during the storm. Immature growth 75 to 100 years old was the hardest hit.

The storm has created a high fire hazard on areas which have heretofore been considered safe. On account of the mat of boughs scattered, which in many places resemble a carpet, it will mean a rapid spread of fire with greater difficulty in control. Plans are under way to provide additional protection for these areas.

- - - - - - - - -

Secretary of the Interior Wilbur has issued an order restricting the cutting of timber on Indian lands and the "revested Oregon and California lands" except where necessary to permit the continuance of existing local operations relying upon such timber. This action is in conformity with a general policy recently laid down by the President to curtail the cutting of timber in public ownership until such time as there is a renewed demand for lumber. Extensive tracts of timber in the States of Oregon and California will be affected by Secretary Wilbur's order.

- - - - - - - - -

Thirty-nine States, and Hawaii and Porto Rico last year distributed 79,229,629 trees for forest planting. Of these 25,746,215 were distributed under the Clarke-McNary Law cooperative plan, 30,443,654 were for reforesting of State lands, and 23,039,760 for planting on private lands other than farms.

Owing largely to heavy planting on privately owned timberland, New York led the cooperating States with 24,960,700 trees distributed. Michigan distributed over 19 millions, of which 16 millions were planted on State lands. Pennsylvania sent out 9½ millions; Massachusetts about 4 millions; Ohio and Wisconsin about 2½ millions each. In Porto Rico more than a million and a half trees, chiefly of sub-tropical types, were distributed. Hawaii supplied 914,800 trees of many different varieties.

- - - - - - - - -

The present and prospective deficit in Governmental finances has resulted in a program which for the Forest Service includes the following for the fiscal year 1932:

> Expenditures on forest highways will be curtailed by two million dollars
>
> One hundred and twenty five thousand dollars of the cash withdrawals from the Treasury for the new Forest Products Laboratory Building at Madison will be deferred until after June 30, 1932
>
> Not less than six hundred and seventy five thousand dollars is to be saved from other regular appropriations

The cut has been distributed as equitably as possible between the regional, Washington office, and research appropriations. All activities will be affected by this program, and, in the last analysis, many a ranger district will have to do without the new pack saddle to replace the one smashed when old Dobbin stumbled and rolled, or the lanterns that are needed to insure effective night work on the next fire, etc., etc. The men in the Northwest who are struggling with the wreckage caused by the April hurricane will have to take one more notch in their mental belts in order to find some way of meeting the demands of the situation with less than the usual financial resources.

The Department on July 2 released to the Civil Service Commission our request that 58 names be certified from the Junior Forester register, from which appointments would be made to all four Bureaus drawing on this register. This is two names for each expected appointment. Our request that 20 or 30 names from the Junior Range Examiner register be certified for general use was also sent to the Civil Service Commission by the Department. The Department has been withholding requests for certifications, and this action means therefore that our first hurdle has been passed in securing certification of names for Junior Forester and Junior Range Examiner positions.

On July 3 it was learned from the Civil Service Commission's office that the certificates would be issued as requested. The system we have used for several years will therefore again be employed, with the result that the necessary freedom and flexibility in fitting jobs and men together will be obtained. The only difference between 1931 and previous years are that this year we have but 58 names certified from a total Junior Forester register of about 115 names, and that a total of four Bureaus in two Departments are now drawing on the register.

- - - - - - - -

L. F. Watts, who has been in charge of forest management studies at the Intermountain Forest and Range Experiment Station at Ogden, is being transferred to the directorship of the Northern Rocky Mountain Forest Experiment Station.

At the latter Station it is planned this year to combine into one large research unit all the investigative activities for this region. This will mean not only the silvicultural work, which has been in the past the sole activity of the Station, but also forest products, which has been heretofore a part of the work of the Regional Office. It is planned to begin this year at the enlarged Station new work in range research and in the forest survey, which is made possible by new appropriations set up specifically for this purpose.

- - - - - - - -

James T. Jardine, Director of the Oregon Agricultural Experiment Station, Corvallis, Oregon, has been selected by Secretary Hyde to be head of the Department's Office of Experiment Stations, a post that has been vacant since the death of Dr. E. W. Allen more than a year ago. Mr. Jardine was for a number of years Inspector of Grazing for the Forest Service, resigning from that position in 1920 to accept directorship of the Oregon Agricultural Experiment Station.

PRESERVATIVE TREATMENT OF WOOD IN 1930

Final tabulations on the quantity of wood treated and the preservatives used, have been completed by the Branch of Research for incorporation in the twenty-second statistical report which the Forest Service compiles annually in cooperation with the American Wood Preservers' Association. The report covers the activities of the industry for the calendar year 1930. These reports for previous years have almost invariably shown increases in both preservatives used and material treated. The business depression of 1930 no doubt affected this industry, as it did many others, although perhaps to a smaller degree. It is to be expected, therefore, that reductions from the figures shown in the report for 1929, the peak year of the industry, would be registered both in the quantity of preservatives used and in the material treated in 1930.

In 1930 a total of 204 plants were in active operation, or one more than reported in 1929. Four new plants were constructed in the year, or 3 less than were built in 1929. Of the 204 plants that were active in the year covered by this report, 134 were of the pressure cylinder type, 53 were non pressure (open tank) plants, and 17 were equipped for both pressure and non-pressure treatment.

The total quantity of wood treated in 1930 was 332,318,577 cubic feet, 8 per cent less than the quantity in 1929. All but 10 per cent of the quantity of material reported in 1930 was treated by pressure processes.

All but one of the eight classes of material treated in 1930 showed decreases from the quantities reported in 1929. The exception was switch ties, which showed a slight increase. The greatest decrease was registered by cross-ties , amounting to 23,267,988 cubic feet. The next largest decrease occurred in poles treated, the quantity reported in 1930 being less by 1,896,171 cubic feet than in 1929. Wood blocks ranked third with a decrease of 1,839,685 cubic feet, and construction timbers was fourth with a decrease of 1,190,442 cubic feet. Next in point of quantity was miscellaneous material with a decrease of 935,429 cubic feet. Slight decreases were also recorded in the quantity of crossarms and piles treated.

In 1930 the quantity of creosote used by the wood-preserving industry was 213,904,421 gallons, or 5.9 per cent less than was reported in 1929. The amount of petroleum consumed by the industry was less in 1930 than in 1929 by 1,555,865 gallons.

The 1930 consumption of zinc chloride by the treating plants of this country was less than that reported the year before by nearly 30 per cent. This reduction in the consumption of zinc chloride results in large part, perhaps, from the lessened use of this salt alone or in mixture with creosote in the treatment of crossties and switch ties. Consumption of zinc chloride in the treatment of other classes of material in 1930 showed an increase over the quantity so used ib 1929.

The total quantity of miscellaneous preservatives used by the wood preserving industry in 1930 consisted of 1,770,925 pounds of salts and 202,891 gallons of liquids. The salts comprised sodium fluoride, sodium arsenite, arsenic trioxide, zinc-meta-arsenite, sodium chloride, mercuric chloride and Wolman salts. The liquids included Ac-zol, Montan wax and Carbosota.

SPORTSMEN SPARE THAT DEER

A snow-white albino deer was discovered on the Shasta National Forest by a Forest Service range inspector, says a news item in the Sacramento Bee. He has requested all sportsmen to spare that deer.

LIGHTNING DOES STRIKE THE SAME PLACE TWICE

Disproving the bromide that "lightning never strikes twice in the same place" and proving that the life of a lookout man on the high peaks in the National Forests is far from being placid and uneventful, is a report issued by R-5 that a lookout house in the San Bernardino National Forest was struck twice in the same thunderstorm and destroyed by fire. There have been six cases of compensation due to lightning shock in California, and over twice this number of cases where the bolts have stunned but not seriously injured the lookout man. - From R-4 Bulletin.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
Theodore Roosevelt

Vol. XV, No. 29 Washington, D. C. July 20, 1931

A QUESTION OF TASTE AND VIEWPOINT

By R. P. A. Johnson, Forest Products Laboratory

We have never considered aspen a delicacy. At that we cannot admire, as does Munns, the preference of the Lake States porcupines for Jack pine. Maybe he would change his opinion if he would take a cutting board of nice clear Jack pine and another of aspen, and place on each a nice hot loaf of bread like mother used to make. Then cover each with a cloth and let the bread cool. Try it sometime and see how much respect you have left for the porcupine's taste.

It is remarkable what a difference the viewpoint makes. We saw the law of the survival of the fittest again favoring aspen in porky's aversion to the wood. Fire and the axe wipe out our "superior" species and leave a desert. They take out one aspen and twenty come back and no porky is going to stop them from becoming excelsior, paper, matches, or lumber. You see what you are looking for. The forester and lumberman look for sawlogs in trees. When they do not find them in large sizes and numbers in aspen they see no other virtues. The wood's fine uniform texture, softness, and clean white color are hidden from their eyes. They cannot see the strength of the fibers which are tougher than the esteemed basswood and equal in bending strength to the famous northern white pine, and with it all weigh little more than either.

Several months ago an eastern consulting engineer packed his grip and started for the Lake States. His clients manufacture pulp, ran it into paper, and print popular national magazines on the paper. A cord of wood goes into one door of the plant and comes out at another as a bundle of neatly wrapped and addressed magazines. This engineer was hunting raw material. He traveled by train, automobile, afoot, and horseback up and down the Lake States. Was he hunting the famous northern white pine, god of the lumberman and forester, or lke the porcupine was he hunting Jack pine slowly emerging from obscurity? Was he hunting beech, birch, or maple, pride of the hardwood lumberman? He was not. Believe it or not he was hunting the abused, despised, and lowly aspen or popple. What did he want with it? Why to make a fine grade of magazine paper, and strange to say in referring to previously mentioned "superior" species he referred to them as inferior woods.

We expect the layman, the lumberman, and even the forester to "take picks" on what they call weed trees, inferior species, or other names that will not bear repeating. When, however, the research man takes a crack at them we get excited and all riled up. He is supposed to know better and should remember that the tomato was once considered a weed and its fruit was believed to be poisonous, and that "the stone which the builders rejected has become the head of the corner." Who knows but that the lumbermen of the Lake States may be cutting aspen when Pinus strobus and other "superior" species have joined the buffalo, antelope, and carrier pigeon.

THE ACT OF JUNE 11

By John D. Jones, R. 3

Twenty five years ago the Act of June 11, 1906, became a law. For nearly ten years the Forest Service personnel wrestled with this agricultural land problem (more of them would call it demon). Prior to the passage of this Act many of the Forests were spotted with pre-creation homestead settlers and squatters. Many of these were out and out timber claims; their claimants had no intention to farm them, if they could. These claims were usually located on unsurveyed lands, after a survey had been made but before acceptance and therefore not subject to entry. Meanwhile claimants were holding these choice timber tracts, carrying from two to six million feet, under the guise of homestead squatters, intending to file under the Timber and Stone Act the moment the survey was accepted. Such was the situation in which thousands of claimants found themselves when the National Forests were rapidly being expanded in 1905-6. The forest withdrawal disposed of the Timber and Stone Act and left them with only the thin guise of a homestead squatter, and to this they clutched like grim death.

On the other side of the picture was that splendid type of sturdy pioneer who had gone out miles into an uncharted wilderness, selected an open park or a tract of rich meadow land along some stream, and by the sweat of his brow proceeded to carve out a home. To these settlers the Act of June 11 was a God-send, for now they could have a survey made by metes and bounds so as to exclude the worthless hills which they would have had to take if filed upon by 40s under a General Land Office survey. Neither did these settlers now have to await a Land Office survey, which in some instances might not come for 15 or 20 years, but they could immediately apply for a separate survey, make their filings, and submit proof.

At this early date the idea of the Federal Government reserving any lands from entry and putting into effect any form of land management was a brand new idea and little to be tolerated. Its purpose was little understood and generally condemned, and thought to be merely a passing phase. The timber grabbers were loud in their denunciation and predicted dire destruction to those who dared to block their land grabbing scheme.

Such, in short, was the hornet's nest that the first group of land examiners were summarily engulfed in when they began their work early in 1907. The six District Inspectors, as they were then called, combed their ranks for gullible youths (most of them were young then) who were ready to rough it physically and mentally and sally forth to meet the impending wrath of the timber claimants. It was a long and hard fight up and down the line from congressmen to examiner and many were the anathemas hurled around the examiner's head by those affected. Whether he dared to go back over the same territory the second time was left to the examiner's own judgment. The effect of an adverse report on the claimant of a valuable timber claim was often dynamic. For a while it was hard to tell whether the irate claimants or the struggling examiners were going to emerge on top. The basic principles of the agricultural land classification adopted in those early days were, however, sound and eventually triumphed, although occasionally a fat morsel was dropped into the pot of expediency to appease the clamor of the mighty. A few years later piece-meal examination was abandoned and the general classification act was passed and with it came the systematic classification and

"BOX SCORE"

REGIONAL FIRE QUOTAS AND 1931 RECORD TO JULY 10, 1931

	Area burned over N.F. & Private inside			Per cent Class C		No. of extra period B.C. fires	No. of M.C. fires	
		.1 of 1%						
Region	1925-29 Average	Quota Prorated	1931 to date	1925-29 Average	1931 to date	1931 to date	1925-29 Average	1931 to-date
1	165,028	45,521	14,800	9.2	8	16	365	163
2	9,804	7,335	9,430	9.7	10	3	134	56
3	10,903	9,588	4,641	6.1	10	11	227	176
4	13,773	6,137	2,508	8.3	12	16	206	93
5	187,012	54,326	19,642	19.5	15	33	924	323
6	125,333	33,731	10,800	10.4	17	17	704	274
7	74,951	20,000	26,385	55.1	52	5	810	731
8	1,124	1,499	2	10.4	0	0	36	5
9	12,945	5,132	32,522	35.6	58	10	47	124
Total	600,873	183,269	120,730	17.0	26	111	3,453	1,945

CALENDAR YEAR F.F. EXPENDITURES

Expenditures					
1930	Average Annual 1925-1929	Region	Total F.F. C.Y. 1931 to-date	For Emergency Gds. 1931 C.Y. to-date	No. of F.F. Guards on duty
$ 327,460	$ 679,400	1	$ 94,272	$ 5,500	36
32,925	9,457(a)	2	2,315	47	0
15,386	36,673	3	12,930	323	0
37,666	30,815	4	10,706	20	0
235,183	459,572	5	89,576	7,417	0
407,668	495,238	6	102,396	10,000	1
191,861	54,673	7	48,685	5,471	11
847	3,645	8	0	0	0
75,947	37,675(a)	9	36,886	1,419	0
$1,324,943	$1,807,148		$397,766	28,197	48

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

separation of the agricultural lands contained within the National Forests from the permanent forest and watershed lands. This work was completed about 1920 and with it ended the struggle waged around the Act of June 11. Any of the old examiners will tell you it was a great fight while it lasted, ably waged, and nobly won. - Clipped from R. 3 Bulletin

TO OUR GOOD FRIEND HAL. SYLVESTER

By Jno. D. Guthrie, R. 6

Probably few of us when we come to retire, can point to as long and as faithful and as conscientious a service to our Government as can Hal Sylvester when he left Federal employ on May 25, 1931.

Over 35 years, for he began in 1897, with the U. S. Geological Survey, and continued for 11 years. During those years he worked mostly in the Pacific Northwest, our R-6 as it became known later. He came to know intimately prominent natural features of both the Washington and Oregon Cascade Ranges, for he mapped the Mt. Stuart, the Mt. Adams, and the Mt. Hood Quadrangles. If not already having it, he — topographer and surveyor that he was — must have during those years come to have a love for the mountains and high peaks.

On April 11, 1908, he transferred to the Forest Service and cast in his lot with us, to serve as Forest Supervisor of the Wenatchee, where his entire forestry work of the past 23 years has been. During these years he gave his best to the Wenatchee. He knew his Forest as a topographer, as a geologist, and as a forester. He found many an unnamed creek and lake, and peak, and he gave them names, - some literary, some descriptive, some fancy, some whimsical. He has seen many changes on the Wenatchee and in the valley. Deputies, Forest Assistants, Junior Foresters, and Forest Rangers came, were trained under his fine influence and went on, many to positions of high responsibilities and trust.

A college-bred man, an engineer, with a love for the wild places, he brought to forestry a keen appreciation not only of nature, but also of literature and friendships and the really worth-while things of life. In these his wife, also college-bred, joined, and a visit to their hospitable home in Wenatchee always leaves one with the feeling that here is a home of culture, of high ideals, of unselfish devotion to others. Both are great readers, of good literature, and Hal Sylvester has written much, and always writes well. Back in July, 1903, an article by him appeared in the National Geographic Magazine, into whose pages few if any foresters have ever been allowed to enter. This article was about Mount Hood, - "Is Our Noblest Volcano Awakening to New Life?", and it is significant that it was copied in full in 1930, in "Public Values of the Mount Hood Area," the report of the Special Committee on the development of Mount Hood (Senate Document 164). He wrote much for the daily press and many of his signed articles have appeared in Wenatchee and other papers. Occasionally he indulges in verse (11 of his verses appear in the collection of forest verse, "Forest Fire and Other Verse"); his "Ode to Mount Hood" shows him to be a deep thinker and a philosopher.

His friends and fellow citizens know him to be a high-type gentleman, always interested in civic enterprises, and willing to do his share. He has always set for himself high standards of personal and official conduct, and expected his men to do likewise. A hard worker, patient, of calm and sound judgment, with a keen sense of humor, he plays fair and square, and assumes that his fellowmen will do likewise. His standing in his community is high, and that standard will ever be a model for the Forest Service in Wenatchee. "Always to others' faults a little blind " his heart is as big as his body.

Hal Sylvester now retires from the Service, on his 60th birthday, undoubtedly with the satisfaction of having served his country, the Forest Service, and his fellowman well. He has yet many good years before him, to enjoy more the things worth enjoying. It isn't as if he were being transferred or moved somewhere else. His home is in Wenatchee, his apple ranch is near Leavenworth.

And so, we wish him a Happy Birthday, and many more of them. We are mighty sorry to see him leave his office in the Federal Building, but we envy him his official record, his standing, and the fine trips and good times that he and Mrs. Sylvester are going to have, - and we're not saying "Goodbye," but just "So long, Hal, we'll be seeing you again!"

RESOLUTIONS PASSED BY INTERNATIONAL FORESTRY CONGRESS RESULT IN WORLD WIDE ENQUIRY

At the 1st International Forestry Congress, held in Rome from April 29 to May 5, 1926, among the questions discussed in the meetings of its First Section, that of State intervention in the administration of privately owned forests and the utilization of waste land figured conspicuously. After the discussions, the Congress, in its Plenary Session of May 5, 1926, passed the following resolutions:

"1. That for the purposes of the next Congress, a review should be made by the International Institute of Agriculture of the present position of forestry legislation and forestry taxation in the different countries, as regards privately owned forests and the results obtained from them;

"2. That the States should do their utmost, and at as early a date as possible, to secure by suitable action an increase in timber yields, together with an improvement in the protective value of privately owned forests;

"3. That the States take steps to increase the area of public forests, by the purchase by agreement of private forests and of waste lands suitable for re-afforestation;

"4. That the Congress considers it desirable that popular education in forestry should be encouraged in every country."

The Congress, on the motion of its Third Section, approved during the Plenary Session, among others, the following recommendations:-

"On the question of the utilization of bare lands, it may be affirmed that in temperate countries no land is so arid that it cannot be afforested, but the problem presents special difficulties, including the encouragement of the formation of humus, protection against drying winds with consequent desiccation of the soil, etc."

The Congress recommends forest workers in all countries with a dry climate to use every effort to bring about the afforestation of bare lands as a means of controlling the extension of waste areas and depopulation.

In this connection, the following resolution of the International Forestry Congress, held in Antwerp on the 27 and the 28 of June, 1930, may be quoted:-

"Having regard to the importance for a number of countries of the question of optional reafforestation by the owners of lands suitable for silviculture;

"Recognising the value for each such country of a knowledge of the measures taken and the results obtained elsewhere;

"The Congress recommends that an international Enquiry should be made to this end."

This resolution of the Antwerp Congress appears to agree with the resolution abovementioned passed by the 1st International Forestry Congress of Rome, since the object of both resolutions is the prevention of the destruction of forests, especially of privately owned forests, and to make known - by the supplying of precise information - the measures taken by each of the States in favour of afforestation or reforestation of land suitable to silviculture in the ownership of private persons.

Such is the origin of the Enquiry, which the International Institute of Agriculture is initiating with the approval of its Permanent Committee given at its meeting in October 1930. Its purpose is to obtain from the various countries data on the following subjects: (1) laws and legal provisions at present in force concerning administration of privately owned forests; (2) forest taxation; (3) means for increasing yield in timber on privately owned forests; (4) afforestation and reforestation of waste land suitable for forestry, by Government and private organizations; (5) plantation methods and forest systems at present preferred by private owners, who carry out afforestation on their own account; (6) forestry education.

GOVERNMENT PUBLICATIONS DEFENDED

Denunciation of Government Bureaus and public service in general has become so much the fashion that syndicated writers for the daily papers are taking it up. The amount of distortion and misinformation which occurs in many of these articles leaves them open to forceful replies. Such replies have been made over the radio by Secretary Hyde and Assistant Secretary Klein of the Department of Commerce, whose radio talk is published in the United States Daily of July 7. This talk is particularly effective in pointing out some of the fallacies and misinformation which are being bandied back and forth between writers who are following the current vogue of criticism of every Government activity falling under the heading of productive or promotive outlays devoted as aids to health, education, agriculture, industry, commerce, and transport by land, water or air.

In referring to the satirical criticism which has been heaped on Government publications, Dr. Klein uses a couple of particularly pungent sentences as follows: "I grant you that there are instances of obscure, apparently trifling data unearthed and circulated in the operation of so far flung and active a fact-finding agency. But for every publication of a bulletin on frog legs, or gold fish, or toy balloons, there are a hundred of wider value. It gets pretty close to myopic malice to focus on a single triviality and magnify and distort it as characteristic of the whole." Dr. Klein then goes on to develop the fact that even frog legs, gold fish, and toy balloons have an industrial and an occupational significance in the United States probably unknown to the writers who are having so much fun deriding Government publications. - Roy Headley

WHY DOES RESEARCH LAG?

(From an editorial in "Engineering and Contracting")

Although engineers and doctors appear to have had enough scientific training to appreciate the importance of research, even they have not usually been very enthusiastic advocates of general adoption of research. Their failure to do so may perhaps spring from the belief that researchers are born and not made. All highly successful specialists are born with much natural aptitude for their specialty, but it is equally true that they would seldom have succeeded had they lacked training. Often their training was self-imposed, and not infrequently inspired solely by reading about the discoveries of other researchers. What man of scientific bent could read Faraday's "Experimental Researchers in Electricity" without a quickened pulse? In the perusal of its 1,450 pages there is not a dull moment for a person who has been bitten by the research bug. Perhaps one reason for deficient interest in research, even among scientifically trained men, springs from the way in which science is ordinarily taught. Books, articles, and lectures alike commonly err in stressing the results of research instead of stressing the methods of research. How a discovery was made is vastly more interesting to a natural researcher than is the principle or fact discovered. Therefore, the mental diet of a would-be researcher should consist mainly of methods of making discoveries and principles of research logic, illustrated by numerous examples.

YE EDITOR DISCOVERS

Weather conditions with which the Forest Service has to contend seem to grow more and more freakish. Some examples so far this year are: the worst spring fire weather ever experienced by the Service as a whole; hurricane winds in the Northwest covering an unprecedented scope of territory; splendid rains during the last half of June in Regions 1 and 6, after a trying winter and early spring drought; and, drought conditions in eastern Montana so severe that Senator Walsh has been agitating a special session of Congress in order to secure relief.

Acute shortage of water for stock disarranged the usual range management on the Custer National Forest and compelled Region 1 to shift all its fluid resources in an effort to develop new or improve failing water supplies so as to avoid disaster for stockmen. After exhausting his own resources the Regional Forester appealed for help from other Regions. If the usual team work between National Forest Regions occurs, whatever is found practical to do in relieving the Custer situation will be financed.

- - - - - - -

The hemlock tree has been chosen as the State Tree of Pennsylvania. Legislation officially adopting this tree as its State tree was unanimously passed by both Houses of the Assembly, and was signed by Governor Pinchot on June 22.

Hemlock was selected, it appears, because of its prolific growth and its importance as a timber tree in the State. It grows naturally in every County of the Commonwealth, especially in the mountainous regions. In 1899, the banner year of lumbering in Pennsylvania, the cut of hemlock formed two-thirds of the entire lumber production. And hemlock still leads. It is also one of the most beautiful of the evergreens and is widely planted throughout the State as an ornamental tree in home grounds, parks, and public places.

"If Pennsylvanians were to select some one tree as characteristic of our State, nothing would be better than the hemlock," said Dr. Joseph T. Rothrock, Father of Pennsylvania Forestry, more than 35 years ago.

- - - - - - -

D. L. Beatty of Region 1, who has been devoting his time exclusively to the development of radio equipment suitable for use in fire control, has resigned. Although a portable combination receiving and sending set suitable for use when pack animals or trucks are available for transportation has been developed, the radio project is not yet complete. The next jobs ahead are (1) development or selection of a radio set which will send and receive voice from central stations, as at Supervisor headquarters, and maintain communication with portable sets by control crews, firemen, fire guards, etc.; (2) development of what might be called a feather weight radio set, light enough to be carried on the back of a fireman dispatched to a fire, enabling him to report back immediately the conditions he finds. There is a chance also that studies and utilization of developments in the radio field will make it possible to transmit as well as receive voice with the portable equipment. Sending of information from the portable sets in the woods now has to be done by the use of telegraph code.

A. G. Simson, formerly engaged in studies of static in relation to weather at the Wind River Station of the Branch of Research, has been transferred to the Region 6 organization to take up Beatty's work. Supervision of the radio development project will be taken over by Regional Forester Buck, who will be able to utilize the services of Assistant Regional Forester Horton, an enthusiastic short wave radio amateur. Horton has a background of experience as Supervisor of the Columbia where the tests of the Beatty portable were carried out in the season of 1930.

- - - - - - -

It is reported that the difficulty over the title to the Government Island tract to which the Ogden Supply Depot is to be moved has been settled by court action. If no further delays are encountered, construction work should start at an early date, and it is possible that Haynie will move into his new quarters during the present fiscal year. The appropriation for the Government Island buildings to be used by the Bureau of Public Roads, Coast Guard, and Forest Service was granted by the last Congress, but everything has been held up on account of technical difficulties in conveyance of title to the Federal Government.

- - - - - - -

The Washington library of the Forest Service now contains 26,573 books and pamphlets, 809 of which were added during the past fiscal year. Books and periodicals drawn from the library during that year totaled 10,116. In addition 1,539 members of the Service and others went to the library to consult books. The largest number of books and periodicals loaned in any one month was 1,025, in January 1931. There were more visitors to the library in October 1930 than in any other month, 156 people having been in at that time.

PROCLAMATION

MY FELLOW CALIFORNIANS:

I have just been informed by the State Forester's office that the thing we have been fearing for weeks has occurred—the 1931 fire season has started with outbreaks all over the State.

A genuine emergency confronts the State. Woods and fields are in powder-dry condition. The greatest drought in California history has been predicted for this year. Playgrounds and watersheds are threatened. Unless drastic steps are taken to prevent it the entire State may be afire by the middle of summer.

I am, therefore, dedicating every resource of the State Government at my command to meet this situation. The task is too great for one body such as the State Board of Forestry, or the State Forester to handle. It calls for the best efforts of every county, every civic and public body, every man, woman and child of California.

For the coordination of all State and private agencies to meet this crucial condition I am appointing a CALIFORNIA FIRE EMERGENCY COMMITTEE.

I further wish to call upon every civic and public body in California to work with this committee, and request that similar emergency groups be formed in every county of California, with the county boards of supervisors taking the initiative.

The entire California Highway Patrol will be used for establishing lines of communication on going fires, and every traffic officer instructed to enforce the law against throwing cigarette stubs or any burning material from automobiles.

Eastern tourists and visitors entering the State by automobile will be warned through the border quarantine stations of the State Department of Agriculture. Fish and game wardens will be instructed to aid forest rangers and inspectors in every way when they are fatigued by directing fire-fighting operations.

I have every confidence in the ability of California to meet this emergency. The first duties of the Emergency Committee will be to call it sharply to the attention of every citizen that extreme care is needed during the crucial fire period. If we can prevent fires before they are started we will be going a long way toward holding the fire loss to a low figure this year.

(Signed) JAMES ROLPH JR.
Governor

From R. 5 Bulletin

WANTED

Vacation time wants in the National Forests have been listed as follows:

Matches that use their heads when their owners don't.
Cigarettes without a forest fire in a trainload.
Cigars that go out when dropped.
Empty cans that automatically roll themselves into garbage pits.
Newspapers that decompose when left lying around.
Signs that rebound the bullets at vandal shooters.
Campers that never fail to extinguish their camp fires with water.
Motorists who carry ash receivers in their cars and use them.
Hunters who only shoot after they see horns.
Fishermen who never clean their catch in a stream or lake.
Tourists without a mania for writing their names on sign boards.
Nature lovers who do not destroy the flowers, shrubs, and trees.
Good citizens who realize their responsibility to prevent forest fires.

May we not add a few more?

A fireless cook and a smokeless gunner.
Lightning that rattles before it strikes.
Stowaway shovels for absent-minded cars.
Men who will walk a mile to smoke at a fag station.
A walking stick like a boomerang, to bring its owner back to camp.
Bluebells that ring like burglar alarms and daisies that tell when kidnapped.
Fish that won't bite out of season, mosquitoes that won't bite at all.

– R. E. Miller

A progress report covering the results of French face chipping indicated that French faces on longleaf trees produced 22 per cent more gum than American faces of the same width during the first year of work and 28 per cent more the second year. Another test in slash pine showed that two groups of French face trees yielded, respectively, 23 per cent and 25 per cent more gum than the group of trees with American faces with which they were compared. It was also shown that the yield from a standard French face of four-inch width was greater from large trees than from small ones. – From Annual Report of Southern For. Exp. Sta.

FOREST SERVICE
U S
DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 30 Washington, D. C. July 27,1931

FOREST-SURVEYING IN THE BOTTOMLANDS

By C. M. Granger, Washington

The director of the forest survey in the bottomland hardwoods of the Mississippi Delta Region, G. H. Lentz, and his associates are fast becoming amphibian. In order to run lines across this 30,000,000 acres of "flatwoods" and take sample plots wherever they fall automatically, one has to be equally at home on land and in water. One has also to be in such a mental state that he can take seriously a "ridge" not more than 2 feet higher than the surrounding terrain and having the same topographical aspect as a tennis court, because these Lilliputian eminences cause highly important changes in forest types and growth. One must have an especially alert eye to detect the transition from one to another of the 12 forest types and to identify accurately each of the fifty-odd commercial species. And above all one much have a good disposition and a sense of humor to cope with rain, mud, swimming and wading, heat, mosquitoes, chiggers, snakes, palmetto, briars, poor drinking water if any, hominy grits, and the ubiquitous savage coffee over which visiting northerners particularly grouse.

To one whose first experience in helping organize the forest survey was in the Douglas fir region of the north Pacific coast, the Mississippi Delta hardwood bottomlands present a most abrupt contrast in conditions. The country is unbelievably flat. There are water courses big and little, and swamps in profusion. There are belts of agricultural land adjacent to most of the roads, with timber bodies of all sizes in the back country. Very little virgin timber remains. The bulk of the existing forests consists of culled or cut-over stands and second growth on old fields.

Because so little of the virgin timber remains, reliable cruises are in existence for only a minor fraction of the territory. In general, therefore, the inventory of forest resources has to start from scratch. A method similar to that used in the forest surveys of Sweden and Finland seems likely to be the most fruitful, so a linear system of survey has been adopted and is now being tried out in two adjoining compact parishes (counties) in northern Louisiana.

In this first test lines are being run 3 miles apart, east and west, with sample plots every 10 chains. For the merchantable timber the sample plots are one-quarter acre, for the timber below merchantable size one-twentieth acre, and for small reproduction one-one-hundredth acre. Along the line, which is run with a compass and chained, a linear record is kept of the physical forest sites (ridge, flat, swamp, etc.) and the condition of the forest (virgin, culled, cut over, etc.). On the sample plots records are made of the type, species, volume, log grades, growth, soil, drainage, etc. Special plots are taken for damage data. Records are kept also for the agricultural areas to show the general quality of the land and the portions reverting to forest, as an indicator of the probable addition to the forest lands from farm-land abandonment.

Out of this preliminary test, after statistical analysis of the results, will come a final determination as to what interval between lines and sample plots will make it possible to obtain acceptably accurate figures on area, volume, and other major factors in the forest survey.

With only twenty-three thousand and odd dollars of Federal funds available per year for this work so far it will be slow going to cover 30,000,000 acres. It is hoped to raise additional funds through cooperation with the States and with other agencies directly interested.

ACCOMPLISHMENT

Short and Sweet

Western Union

Forest Service, July 15, 1931

Washington, D. C.

ROCKCREEK FIRE LOLO, TWO THOUSAND ACRES, TWENTY FIVE MILES PERIMETER, CONTROLLED. HEMLOCK CREEK FIRE CLEARWATER, NINETY FIVE HUNDRED ACRES, PROBABLY EXCESSIVE ESTIMATE, THIRTY MILES PERIMETER, CONTROLLED. GOLDCREEK FIRE BITTERROOT, FIFTEEN HUNDRED ACRES, TWELVE AND HALF MILE PERIMETER, CONTROLLED. AT THIS TIME, NOON FIFEENTH NO OTHER CLASS C GOING.

KELLEY (R. 1)

- - - - -

JULY 3 -- 8 in California

National Forest Fires --By Telegrams from Forests

Cleveland -- 1,000 acres brush. Dripping Springs, 100 men. Controlled.
Sequoia -- Democrat Hot Springs. 1,600 acres brush, 180 men. Controlled.
Hume. 5,000 acres brush and timber, 350 men. Controlled
Shasta -- Blue Lake. 68 acres. Controlled.
Moffitt 500 acres, 100 men. Not controlled.
San Bernardino -- Waterman Canyon, 100 acres, 200 men. Controlled.
Tahoe -- Forest Hill, State and F. S. Fire, approximately 800 acres on Forest. 75 men. Controlled. Town of Forest Hills saved by F. S. power pumps.
Trinity -- Wildwood, 100 acres, 30 men. Control expected July 8.
Stanislaus - Incline fire, 1,000 acres brush, 50 men. Controlled.

State Fires -- By newspaper reports

Mt. Diablo -- Started July 2. Partially controlled several times. 25,000 acres, brush, grass, grain and woodland. Nine ranches and buildings. 100 head of cattle. 1,000 men. Total damages estimated $100,000. Uncontrolled.

Napa-Solano-Yolo Counties -- 60,000 acres in Gordon Valley and in vicinity of Vacaville, Cordelia, and Monticello. $5,000 loss to ranchers, in buildings and property.
Marin County -- small fire near Novato.
Madera County -- 8,000 acres, grass and brush. Table Mountain.
Shasta County -- 100 acres, brush and grass, in Happy Valley.
Lassen County -- cut-over private land on Lake Alamanor. 300 acres, 150 men from Red River Lumber Company, 10 F. S. crew leaders.
Placer County -- A number of fires near Auburn and one at Pilot Hill. Destroying a house, barn and trestle.
Kern County -- 2,500 acres, grass and pasture on Greenhorn Mountain.
Stanislaus County -- Two miles from fire on Chico Pass.
Small fires reported also in Amador, Eldorado, Humbolt, Fresno and Butte Counties. -

From R-5 Bulletin

FOREST RADIO REACTIONS

By J. M. Mann, Columbia

When we found that the portable radio sets would be available last year, it was decided that one would be placed on Dog Mt. I scouted around considerably for an operator as I did not want to slip up and have too much delay on getting fire reports. I did not seem to have much luck in finding a good man, one who was willing to live up on this high, windy point, and who was also an operator. Finally, I found one -- Bob Walker -- a young chap who had worked for us before and whom I knew to be somewhat interested in radio. Bob said he didn't know much about it but he would like to give it a trial, so I lent him a buzzer telephone and wrote out the code. On July 3 he was sent to Dog Mt., made contact that night, and on July 5 we got his first message. After that time we had a practically unbroken 15-minute to one-hour schedule with two exceptions, - once a loose battery connection caused trouble and he could not get through. When this happened he loaded the set in a packsack, packed it down to the highway, caught a ride, came to Hemlock, got the set repaired and wanted to return to Dog Mt. that night, but I insisted that he wait until next morning. On July 13, a fire on Dog Mt. threatened to wipe out the lookout's camp. Bob frantically called in and asked me what to do. I told him to bury what equipment he could and beat it, but to wrap his radio in a blanket, dig a hole, and cover it up. This he did and came off the Mt. in record time, and, by the way, a goat, which he has for company and also for milk, was right at his heels bleating at every jump. After the fire danger had passed he went back to his camp which, fortunately, had not burned, dug up the radio, and has been making regular contacts since. Walker's time in getting in a complete fire report is about 3 minutes, a very little longer time than by telephone. He has reported many fires as the log book will show.

On this same fire on July 13, when the State men asked us for aid, Mr. Squibb took a portable set and went to the fire. After reaching camp, he had the set working and was giving information to the dispatcher's office here in Hemlock, all within 45 minutes. Mr. Squibb handled 32 messages, comprising nearly 600 words in code and received 225 words by voice, not counting unofficial messages between operators and some voice messages I sent directly to Bruckart and Shepeard.

In a trail camp on Lewis River where Fred Good has one of the portables it is the only means of communication. Good had never had any experience with sending apparatus. Within one week he was putting out an order for groceries, canvas gloves, and "noose" for the Swedes.

I am not skeptical any more. The sets are working, schedule after schedule, the inexperienced men are getting their messages through. I sometimes believe the inexperienced, where they are interested, will work out the best. They will try to do as they are told.

It is yet too early in the game to make a comparison between radio communication and emergency telephone lines but I do know now that we will establish communication with isolated trail crews and fire camps much quicker by radio, and we know that quick action is what counts on fires in the old burns such as we have on the Columbia. Experience has taught us that if we do not get action, and get it quick, we are "sunk." Comparative costs are difficult to measure -- quick action -- a minimum of elapsed time by using radio, will undoubtedly help us get fires while they are small, and if we do get these fires while they are small, on account of our quick action, we shall never know what additional cost might have been added had we spent the time to establish communication by telephone. - Clipped from R-6 Bulletin.

WILD-LIFE CONSERVATION

(Excerpts from the Report of the Special Senate Committee
on Conservation of Wild-Life Resources, January 21, 1931)

The investigation of the wild-life resources of America, is a problem not only of health and recreation, but a problem of large and growing economic importance.

- - - - - -

If there is no game for the hunter, no fish for the fisherman, no wild life in the recreational playgrounds for tourists, these occupations and recreations will perish.

- - - - - -

The larger part of a successful conservation program in the preservation and replacement of wild life belongs to the various States but, without active participation and the leadership of the Federal Government, the work will fail.

- - - - - -

In asking for an orderly and effective program, the committee has given first consideration to Federal activities in wild-life preservation and finds that in the case of forage and farm crops experience has developed two principles now applicable to wild life:

(a) The Federal Government's part in connection with game crops grown on State land is to assist the States to work out better game-cropping methods. The Federal function is research and demonstration.

(b) On Federal lands the Federal Government should conduct its own game-cropping operations.

- - - - - -

The Park Service, in the Department of Interior, and the Forest Service, in the Department of Agriculture, are two major Federal bureaus responsible for the preservation and replacement of wild life by reason of the control which they exercise over great areas of public domain; the opportunities thus provided for increasing the supply on such lands and also because of the demonstration value of such operations to the State commissions and to other organizations and individuals engaged in similar undertakings.

- - - - - -

FOREST SERVICE --This division of the Department of Agriculture has obligations to the Federal program of wild-life conservation that are both direct and indirect in character.

In the care and administration of Federal forests, in the aid it furnishes to State forestry programs and in the encouragement and assistance extended to farmers and other individuals engaged in forestry by research and demonstration, this service is of great importance in developing throughout the country environmental areas vitally necessary to almost all species of American wild life.

- - - - - -

There is an essential difference between forest game and farm game in the means available for getting management measures into practice. Forest and range lands are often sufficiently low in price to permit of public ownership. Public ownership often is necessary in any event to conserve timber, watershed, and recreational values. It already exists to some extent.

Another difference is that most forest and range lands are still used destructively, i.e., the primary "crop" is not yet a crop at all, but results from destructive exploitation of the remnants of a virgin resource. Cropping the game may help to bring about cropping the wood and grass.

A major obstacle to the cropping (as distinguished from the exploitation) of forests is the lack of current revenue to pay taxes and fire protection during the initial stages of forestry. Game responds to management much more quickly than forests. The game revenue, therefore, can help carry forestry enterprises, especially where quail, deer, turkey, or other noncyclic species produce a dependable annual crop.

Management of forest and range game boils down to getting --

(a) Public acquisition of the greatest possible area of forest, watershed, and game lands, and the practice of game management and public shooting on all of them.

(b) Facts on how to modify silviculture and range management to produce a game crop, and how to make it help carry the primary crop.

- - - - - -

The invigorating and recreational value of wild life are difficult to estimate in dollars and consequently are seldom accorded a place commensurate with their true importance in the formation of protective measures.

The flow of expenditures from hunters and tourists is felt in every corner of the land, and, in some remote districts, it is the most important of all sources of income. In at least three States of the Union, the tourist trade, part of which is based on the attracting powers of wild life, is now recognized as the leading industry.

Modern conditions give to the pursuit and capture of game a recreational value equally as important as the food value.

Figures have already been presented to show that there is an increase in the number of visitors to our parks. Practically all of these come in contact with plant and animal life. Their interest is stimulated, and, in this way, by natural educational contact, they are carrying the story of conservation back home and are leading in the various conservation organizations.

(The members of the Special Committee on Conservation of Wild-Life Resources are: Frederic C. Walcott, Chairman; Harry B. Hawes, Vice Chairman; Key Pittman; Charles L. McNary; and Peter Norbeck)

YE EDITOR DISCOVERS

Expenditures from FF for the period January 1, 1931, to June 30, 1931, total $312,201 for all Regions. The highest expenditure from FF for the first half of any calendar year prior to 1931 was $192,000 in the spring of 1924. Expenditures by Regions for the first half of the calendar year 1931 are as follows:

Region 1	$83,572
Region 2	2,195
Region 3	12,432
Region 4	4,103
Region 5	32,932
Region 6	94,396
Region 7	46,051
Region 8	0
Region 9	36,520
Total	$312,201

- - - - - - -

Some 70 citizens of Butte, Montana, have been appointed by State Forester Rutledge Parker to act as State Fire Wardens. These citizens, who have volunteered their services, include lawyers, doctors, technical men, salesmen, lumbermen, mining engineers, dentists, etc., most of them members of the Rotary and Kiwanis Clubs of Butte. It is understood that the force is not yet complete, and that it may be augmented by salesmen and other representative men who travel the State highways in the course of their business.

These State Fire Wardens will report fires, violations of the State or Federal fire laws, the car numbers, names of guilty parties if available, descriptions of the cars, composition of the party by color, sex and numbers, and any other pertinent data that may come to their notice. They will warn persons found building fires in dangerous places or leaving fires unattended, etc. They will not attempt, however, to make arrests except in the most flagrant cases, using their authority in most cases merely to warn or caution the public against fire risks. Their efforts will not be confined to the vicinity of Butte or the Deerlodge Forest, but will be exerted over the different portions of the State where their business calls them.

- - - - - - -

A recent ruling by the Federal Trade Commission put a stop to the practice of advertising or selling western yellow pine lumber (Pinus ponderosa), known to the trade as Pondosa Pine, under the name of "white pine." The Commission said that the use of the words "white pine" for western yellow pine has resulted in a widespread misconception of the comparative qualities, characteristics, commercial values, and even the identity of forest products made from this species on the one hand and from species of genuine white pine on the other; and that it has had a tendency to lessen and destroy public confidence and regard for the true white pines.

Western yellow pine, the Commission said, came to be given terms which include the phrase "white pine" for local markets in California, New Mexico, and Arizona about 1880. By 1886 it was being generally marketed under terms including "white pine" in California, Nevada, and Utah with occasional shipment further East. By 1900 it was coming into middle western territories, and about 1915 western yellow pine completed its national distribution by entering New England in a limited way. But as western yellow pine lumber gradually spread eastward it came into competition more and more with true white pine in markets long occupied by that species. The result was to classify and associate western yellow pine in the market with true white pine, with a resultant substantial monetary sales advantage to producers of the western wood.

- - - - - - -

Sodium chlorate, according to tests made of various chemicals by H. R. Offord of the Office of Blister Rust Control, (results of which are given in Dept. of Agri. Tech. Bull. No. 240-T, The Chemical Eradication of Ribes) is the most effective chemical for eradicating currant and gooseberry bushes. One application of 10 per cent or stronger aqueous solution of sodium chlorate applied to the leaves and stems of one species of currant killed 96 to 100 per cent of the plants. Three applications, however, of 25 per cent solution were necessary to kill the other two abundant species. Fish oil soap or flake glue is satisfactory as a sticker or spreader for the spray. Sodium chlorate is highly inflammable and the utmost care must be observed in its use. The bulletin mentioned above discusses precautions which should be taken to prevent fire when using this chemical.

- - - - - - -

G. H. Lentz, in charge of the hardwood survey at the Southern Forest Experiment Station, and Henry Bull, who is working on silvicultural studies of bottomland hardwoods, are in Washington for an extended detail to the Branch of Research. They will make a study and analysis of the data which have been collected in northwest Mississippi. From the analysis will be determined how far apart strips should be run in order to get a reliable sample of these bottomlands, and how many plots will be necessary in order to obtain reliable volume and stand estimates. Nearly two thousand plots have been taken and 240 miles of strip land have been run so far. As the swamps and bottomlands are this year drier than they have been for a great many years, the analysis is being pushed just as rapidly as possible in order that full advantage can be taken of the unusually fine working conditions. This analysis will require about a month's time.

- - - - - - -

A recent visitor to the Washington office was Director Behre of the Northeastern Forest Experiment Station. Mr. Behre came to Washington to settle some vexatious personnel problems, increased appropriations for work at his Station making it necessary to practically double the size of his present organization. The Station this year has funds for the study of the growth of northern hardwoods and for a study of plantations in the Northeast.

- - - - - - -

Although Junior Foresters have been known to work together under all sorts of conditions, it becomes news when two Junior Foresters become married to each other. This strange event, however, has recently happened at the Appalachian Forest Experiment Station, where Junior Forester Charles Abell and Junior Forester Margaret Stoughton became Mr. and Mrs. Abell.

IN MEMORIAM

By Jno. D. Guthrie, R.6

To show their high regard for a former Forest Officer, there was dedicated on June 28, 1931, a bronze plaque on a high mountain within the Cascade National Forest in Oregon, by the Obsidian Club of Eugene, Oregon. It was donated and placed by this Club, an outdoor organization of which the late Forest Supervisor Nelson Ferris Macduff was an honored member. The wording on the plaque is as follows:- - - - - -

MACDUFF MOUNTAIN
Named in Honor of
Nelson F. Macduff
Supervisor Cascade National Forest
November 1, 1919 to April 4, 1930
"The Mountains Were His Friends"
This Plaque Placed By
Obsidian Club of Eugene, Oregon
June 28, 1931

The name "Macduff" was formally approved for this peak on January 7, 1931, by the United States Geographic Board. From it one may look out over much of the forest which Nelson Macduff loved and protected and for which he gave his life.

CATBIRD ROUTS BLACK SNAKE

By O. M. Wood, Allegheny For. Exp. Sta.

While measuring height growth of some small oak seedlings on the Camp Ockanickon Experimental Forest, the writer's attention was arrested by the strange behavior of a male catbird in the low brush nearby. Upon investigating he found a 4-foot black snake coiled in a defensive position. The catbird flew off but returned in a few moments and renewed its antics within three feet of the writer. It would hop excitedly around the snake with its wings partially extended, now and then darting in for a swift attack. In these attacks it struck with both its beak and feet much as does a barnyard rooster. Its attack did not seem to be directed at the snake's head but the bird did seem to try to get behind the snake.

The snake made no aggressive movement other than to attempt to follow the bird by twisting its head. It was quite apparent that the snake had dined well and recently, which may account for its lack of aggressiveness. The bird did not seem to injure the snake but on two or three occasions the snake began to crawl away. This was a signal for a renewed and furious attack on the part of the bird. It would literally hop all over the snake striking with feet and beak wherever it landed. These attacks although they could have done no more than annoy the snake, caused it to coil again in a defensive position.

The catbird was continually chirping and uttering the characteristic catbird call during the fracas. Another catbird attracted by the commotion flew down but left at once. A chickadee also flew down and did likewise. A woodthrush also came along, but instead of attacking the snake it drove the catbird off and then left without paying any attention to the snake.

Eventually the snake reached some denser brush along a small creek. Here it was captured and brought back to the original scene of the battle. The bird returned at once, actually lighting on the writer's hand in its efforts to annihilate the snake.

The snake was later caused to vomit and it was found that it had recently eaten three small catbirds, probably from the nest of the avenging father.

The persistent return of the bird to the attack and its distressed actions about the snake might have been interpreted as another instance of a bird "hypnotized" by a snake, had not the opportunities for close observation been so excellent in this case

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 31 Washington, D. C. August 3, 1931

A CRUSADING SPIRIT

By H. N. Wheeler, Washington

Foresters have been heard to refer to the earlier years in the forestry movement as the crusading period, adding that those times are past. Whenever any movement passes the crusading stage it has reached a stabilized position and has become a mere routine process, or else it is on the decline and headed for oblivion. Whether it is a religious movement or a campaign to sell bonds for a war, a red-cross drive or for flood or drought sufferers, or for the promotion of an industry, the movement is successful and actively progressive only so long as the crusading spirit predominates the activity. Crusading is simply active advertising and vigorous salesmanship.

If we believe in forestry, each person, in his own way, is going to talk about it, spiritedly and animatedly, and with an effort to convince his hearers of the righteousness of the cause.

Hard surfaced public roads are a necessity, and we, for the most part, realize and accept that need. It comes to our attention every day we travel and buy gasoline at the roadside filling station. We are so constantly in contact with public roads and their construction that we are sold on the idea and a general crusade is unnecessary; and yet, there is need of a special local crusade if a particular community puts over a local road proposition. Some crusading is necessary even in carrying on the regular road work, for there are always people who object to paying taxes for any purpose.

But forests and the forestry movement are quite different. Since few people own forests they have no realization of what forests mean nor how they carelessly may cause fires which will damage the forests. More and more as people go into the woods, the greater is their realization of the value of the woods, not so much for producing a timber crop as for watershed protection, harboring of wild life, and recreational use by human beings. Some of these visitors become crusaders themselves and the crusading spirit continues. If we individually feel that forestry will take care of itself, that trees will grow without aid from us, that fire damage has been breatly over-emphasized and idle acres are no menace to the community, that possibly it is just as well to have idle acres, in fact, come to the conclusion that present conditions are satisfactory and we are going to need very little timber in the future anyhow, then we have lost our leadership in this forestry movement and others will be raised up to carry on the great cause.

High pressure enthusiasts who put over drives of various sorts, whether raising money to cancel a church debt or to found a hospital, feel that they have a real mission and must carry on with a crusading spirit if they are to be successful. Later if these enterprises prove successful, those in charge of carrying on the work must have the crusading spirit, or they will be eliminated and others selected to carry on the work. Those who merely hold a position, drawing their pay and handling in a functionary manner such business as comes to their desk will never make the cause a success. If forestry is to become generally recognized as an indispensable policy of the nation, it must be carried on actively and with the spirit of the crusader.

THE PINE WOODS

(From "Principal Diseases of the Interior Valley of North America"

by Daniel Drake, M. D. 1850)

The medical topography of a country would be incomplete if it did not comprehend specimens of its healthy localities along with the sickly; as it is by comparing them that we arrive at a knowledge of the influence of topographical conditions, under the same climates. If the low and alluvial or marshy tracts around this part of the Gulf are infested with autumnal and yellow fevers, there is an adjacent plain, the height and composition of which give it a decided character of salubrity. This tertiary or post-tertiary deposit of sea sand and clay, has been already referred to in the decsriptions of Pensacola and Mobile. It borders the northeastern segment of the Gulf, from Lake Pontchartrain, or rather from the delta of the Mississippi to Pensacola, and consequently lies in the rear of all the places which have been described. Between the city of Mobile and Pensacola, its altitude is one hundred and fifteen or twenty feet; but farther back from the coast it rises higher. The rivers which flow through it to the Gulf, are the Perdido, between Pensacola and Mobile, and the Pascagoula and Pearl, between the latter and Lake Pontchartrain; all of which are edged with swamps, overshadowed with cypress, sweet gum, and other semi-aquatic trees; decorated with a sombre drapery of long moss (Tillandsia usneoides). The prevailing and characteristic forest tree of this plain is the long-leafed pine; which in many parts, as between Pensacola and Mobile, forms a dense and lofty forest, to the exclusion of almost every other tree. Straight, and generally destitute of limbs to a great height, these pines present to the eye a vast system of intercolumniation, which, seen at night, by the running fire that occasionally consumes their shed cones and long leaves, with the dry grass among which they have fallen, presents a grand and striking spectacle. This conflagration is one cause why so little humus, or mold, accumulates on the surfaces; another is that but little mold is generated by the exuviae of a pine forest, and hence the surface remains barren. Where the plain is too level for the water to flow off, it has collected in small basins, and favored the growth of a more varied vegetation, the remains of which have contributed to arrest its descent into the earth; and thus, in the midst of the pine desert, the eye is relieved by oases of flowering shrubs and annual plants, from which rivulets are seen to flow and congregate into larger streams. In descending from the plain, they readily cut channels through its loose strata; from which there likewise issue copious springs of pure water, the quality of which has been already given, when speaking of the Pensacola and Mobile fountains.

Such are the celebrated pine woods, to the protecting influence of which the people of New Orleans and Mobile commit themselves for safety, in yellow fever seasons; expecting to enjoy an equal immunity from intermittents and remittents. Thus in the region we are describing, the sweet gum and cypress, with their festoons of moss, are the symbols of deep soil, foul surface, impure water, vegetable decomposition, and fevers; while the long-leafed pine symbolizes sterility, dryness of surface, gushing springs of pure water, and sound health.

ACCOMPLISHMENT

In Region 3

"The per diem guards are taking a very active interest and there is no question in my mind that the present acreage burned would have been at least double what it is if we did not have this fine cooperation. I had more or less direct contact with seven fires...... Of the seven, four were first discovered by per diem guards and three by lookouts. On three of them per diem guards were the first in reaching the fire and per diem guards helped suppress all of them."

In Region 5

"Wish you could see the way the new bulldozers are rolling out the cheap protection roads. They have apparently about solved our last major equipment problem. Steepness of sideslope makes no difference.......have made 8 and 9 foot roads with 12 to 20 foot side wall .... ought to knock out up towards 700 miles of new protection roads this calendar year.

"Bill Mendenhall told of a particularly tough piece on one of those vertical Angeles ridges that was built at the rate of 900 feet of road in four hours with the Cletrac 40 and bulldozer. Small crew of course.......getting cheap roads in very rough country."

"...excellent work being done by the backfiller crew of only two men working on a stub road nearby and making, so they said, an average of 1500 feet of road a day."

"On the Modoc we went over the Taylor Creek burn on June 1, 1931. Some 750 acres of slash burned the first afternoon but the fire was held the first night

In Region 8

Reorganization plans have been formulated by Regional Forester and action started to carry them out. Ranger District Divisions reduced from 7 to 5. Two Supervisor offices will be consolidated with Regional office. A substantial amount of time and money hitherto required for recurrent work will be released for direct and productive work on nonrecurrent constructive and development work.

In Region 1

"The Theime Bulldozer is a very substantial and effective machine......road work going along almost in direct proportion as to efficiency as the foremen are good foremen.

"......system is to fell and shoot enough trees to get bulldozer by. It makes the trail for the big tractor with cable and drum equipment which pulls the trees down and away from the right-of-way. In the shovel work, big trees are felled and stumps boosted out by shovel except on low slopes where the shovel cannot get under. There the stumps are shot. The shovel attends to the rest.

"In one hour and forty minutes on a 20 per cent slope where reproduction 1 to 4 inches in diameter stood thick as hair on a dog's back, the shovel made 384 feet of road good enough to run a truck over. In this stuff on slopes up to 50 per cent it is making from 1200 to 1800 feet per day."

- - - - - - -

Wire from Regional Forester Kelley, dated July 18; "Extremely hot, dangerously low humidity night and day. All fires held. New fire south of Superior, perimeter hundred twenty chains, controlled between five PM and two AM, plow unit accounts for fifty per cent line. Hemlock fire Clearwater sixty miles trench no lost line from control time. Now considered reasonably safe. Original figure thirty miles perimeter in error. Included only work done from one base. Rock Creek fire Lolo held without loss of line in extremely rough country. Cabinet, Lolo, Bitterroot, St. Joe, Coeur d'Alene, Pend Oreille closed to entry except with permit."

A MAINIAC ON ASPEN

How does the Laboratory get so excited about aspen? Even in the story of the aspen hunter told in the July 20 Bulletin by R. P. A. Johnson the truth crops out. The man had to hunt usable aspen - among the millions of acres covered with that species in the Lake States. On too many of those acres the rots get the trees before they are big enough to use. And even on the sites which will grow aspen of merchantable size and condition, there can be storage on the stump for only a short time - a stand seldom stays merchantable for more than 15 or 20 years.

There is a lot of good aspen in the Lake States, in New England and in places in the West. There is a lot of it on the Chippewa and Superior Forests, and more outside. Quickly growing, quickly decaying, making comparatively light stands at best, its great virtue is that it is often the first tree species to come in on land that has been abused by fire and axe, and stays there even if the abuse is continued. But bragging about it is like enthusing over Madison winters - all right if you have no good alternative like a trip to Florida. If a crop of aspen is all we have, we should be thankful for aspen on the same basis as offering thanks for beans when we would really like turkey and cranberry sauce. By-the-way, how much aspen will be used in the new Laboratory building?

Aspen is used to make paper. So are lots of other woods that are of much more promise, as a crop, for forest land. The magazines and books would be printed, the smokers would still have matches, the excelsior mills would still operate, and even fresh bread would not pick up odor or taste, if all the aspen stands now littering the Lake States were replaced by stands of other species not subject to the troubles that Mr. Johnson seems to forget.

Aspen gave me my beans (no turkey) one year, and its possibilities as a forest crop have been watched rather carefully ever since. Also its drawbacks. In New England and in the Lake States, at least, other longer lived, heavier yielding trees will grow wherever aspen will attain usable size and condition. It seems to me that the Chippewa is wise in planning to convert its cut-over aspen type to conifers, so far as the aspen sprouts permit. Good forest management ought not to be satisfied with a crop of some sort, but should try to get the most useful and best crop the land can grow. - E. E. Carter.

ASSISTANT SECRETARY DUNLAP TO VISIT ALASKA FORESTS

The National Forests of Alaska are usually visited in the summer not only by a number of men from the Forest Service but also by representatives of the other Bureaus of the Department of Agriculture, Interior, and Commerce. This summer the chief visitor from the Department of Agriculture will be Assistant Secretary R. W. Dunlap, who is booked to sail on the SS Alaska, arriving in Ketchikan August 12.

At Ketchikan Mr. Dunlap will be met by Assistant Regional Forester M. L. Merritt with

"Ranger Ten", equipped with pilot and cook, and provisioned for a week's cruise. "Ranger Ten" is one of the newer units of the Forest Service fleet in Alaska, having been built in 1930. It is cruiser type with a 50 horse power Diesel engine. The hull is 50 feet in length with a beam of 12 feet. She is a staunch seagoing vessel. Although built for one-man control, it has a cabin and bunk space sufficient for a passenger list of 8 or 10 persons. Its light draft admits of close inshore approach, thereby making it especially proficient for inspection cruise.

With this boat at his disposal Assistant Secretary Dunlap will study as many of the major governmental activities in southeastern Alaska as are found practical to visit between August 12 and 17, on which date he is booked to leave Juneau on the SS Aleutian for Seattle.

The time at his disposal will give Mr. Dunlap a fair opportunity to see the work being done in southeastern Alaska by the Forest Service. He will visit typical timber sales areas and typical special use areas. He will travel roads being constructed by the Forest Service and the Bureau of Public Roads, and see the work of the agricultural experiment stations, the extensive fishing activities under the regulation of the Department of Commerce, and many other interesting features of the Alaskan region. - E. A. Sherman.

DAVID LAWRENCE REPLIES TO THE BAITERS OF BUREAUCRACY

On July 12 over a large bumber of stations on the National Broadcasting System, David Lawrence, editor of the United States Daily, delivered an address dealing with the relatively small portion of Federal expenditures devoted to service to the public in the form of Aids to Health, Education, Agriculture, Industry, Commerce and transport by land, water, or air, all of which is being condemned so vigorously in many publications. Mr. Lawrence opened his address with the following paragraph: "Every now and then someone takes a fling at bureaucracy and illustrates the point by singling out some apparently inconsequential activity of Government and holding it up to cynicism or ridicule. Too often the offenders conceal a true purpose to ward off the regulatory arm of the Government. Too often the attack on Government is a camouflage on the part of those who wish to evade or avoid the law. Too often it is an effort to weaken all authority."

RAILROADS MAKE RIGHTS OF WAY HOME FOR BIRDS

"Three railroad companies operating in Missouri have designated their rights of way, stretching into thousands of acres, as game and bird sanctuaries. They have ordered that all natural food and cover be saved, and requested trainmen to help the game and fish department distribute food during the winter.

"The Kansas City Southern, Missouri-Kansas-Texas, and Missouri Pacific lines issued the orders in response to an appeal from John H. Ross, commissioner of fish and game, according to his department's report to the American Game Association.

"It is estimated that thousnds of bushels of valuable bird seed will be preserved from the customary practice of burning over or mowing the rights of way. Shelters and inviolate nesting grounds for the birds will be provided along fence rows, where they are badly needed because of intense farm cultivation in many sections.

"Food furnished by the conservation department and scattered by trainmen along the rights of way during the snowy season will also save birds that would otherwise starve because of a shortage of natural food after the drought." - American Game Association.

YE EDITOR DISCOVERS

Strange as it may seem, a very common and distinctive species of oak was not recognized until as late as 1927. This tree was identified then as Quercus nuttallii by Doctor Palmer of the Arnold Arboretum. The tree resembles in some respects the scarlet oak, which is rarely found in the bottomlands whereas Quercus nuttallii is quite common throughout the delta region of the Lower Mississippi in Louisiana, Mississippi, and Arkansas. At present a considerable portion of the red oak cut in the bottomlands is of this new species, to which as yet no common name has been given. This oak is very rapid-growing, as it attains some 16 to 24 inches in about 50 years. This tree bids fair to become of considerable importance in future forestry in the southern bottomlands because of its adeptability to sites usually too poor for the production of good quality timber from other species, its rapid growth rate, its repeated reproductive qualities, and the high quality of its wood.

- - - - - - - -

All Regions had lower timber sale receipts in F.Y. 1931 than in 1930. The shrinkage ranged from 18 per cent in Region 4 to 60 per cent in Region 8. For the Service as a whole there was a 42 per cent decrease and the last quarter showed a decrease of 52 per cent.

The order of Regions shows some changes. Region 5 is again at the head of the list, with Region 6 a good second. Region 2 stepped into third place, beating Region 1 by about $2,200, and both Regions were passed, going down this time, by Region 7 (shrinkage, 57 per cent), which managed ,however, to keep about $50,000 ahead of Region 3. Regions 4, 8, and 9 followed in the order given. Verily, business seems poor, but ten years ago we would have thought it booming. It was not until F.Y. 1923 that timber receipts were larger than in 1931.

- - - - - - -

A fire estimated at 17,000 acres is reported to be burning in Yellowstone National Park, within three miles of Yellowstone Lake. Region 1 has furnished equipment for 1,000 men, and seven Forest officers from the Region are now helping the Park organization.

So far, no Region seems to have been visited by electrical storms peppering forests with fires, as they sometimes do. Everybody is on edge, however, in anticipation of such a catastrophe at any moment. One dry electrical storm on the Salmon Forest in Region 4 seems to have started a crop of fires, seven of which are giving trouble at this date (July 23).

- - - - - - -

The Appalachian Forest Experiment Station has joined Cary Hill as one of the leading exponents of large sized trees and rapid-growing timber. A recent statement was made by this Station that a mill scale study was carried on in a stand of 40 year old loblolly and longleaf pine containing 5 million board feet, Doyle scale, per acre. Not only was this stand heavy but the Station goes out of its way to explain that the opem character of the stand was due to fire. What would the stand have been had it not been for these terrible fires? Even the redwood in all its glory can scarcely measure up to these rapid-growing southern pines.

- - - - - - -

Bids for the Forest Products Laboratory Building at Madison were opened on July 21 and were all found to be too high for acceptance. The lowest base bid received was $859,607; the highest $1,033,645.

It is planned to confer immediately with the architects and determine upon such changes in the specifications and plans as may be necessary to develop new proposals within available funds. The twenty-five previous bidders will be given an opportunity to submit new bids based upon the modified specifications.

- - - - - - -

Mississippi, through its State Extention Service, issues to the farmers of the State periodic market reports covering principal woodland products. Besides giving market prices at points of delivery and possible demand in other sections of the United States, the reports give pointers on forestry practice. It is pointed out in a recent report that selective cutting, to meet a present light demand, is beneficial to proper timber rotation on the pine lands. The Extension Service reports an oversupply of crossties, with consequent loss to the timberland owner, much of whose tie timber had better have been left in the growing tree.

- - - - - - -

Paul H. Roberts, for the past 9 years Forest Supervisor of the Sitgreaves, has joined the staff of the Southwestern Forest Experiment Station. He left Washington last week for the Southwest, after having completed a detail of several weeks to the Branch of Research.

WHEW - MIDITY

By Eunice Skamser, Allegheny For. Exp. Sta.

When the carbon papers curl, and arms stick to every paper, and fair locks are limp and stringy, there _is_ a reason. At Camp Ockanickon, New Jersey, last week, the hygrometer arm remained at the top for three days and when there was a reading possible it showed 98 for relative humidity. Even a gold fish would gasp under such circumstances.

GIVE IT A WHIRL

As the old saying goes "there is nothing new under the sun" and direct evidence of the veracity of this adage is vouched for by Floyd L. Johnson, scaler on the Eldorado. Johnson found himself in a logging camp where the bathing facilities were not so good; in fact, nil. But a bath is necessary now and then, so Johnson tried the wash basin but that wasn't so hot. Then, by ye gods, the old five gallon pack can with hand pump hove into view and "Eureka!" Johnson was saved. With the aid of one man and plenty of hot water to keep the pack can filled, a refreshing and cleansing tub can be enjoyed. Believe it or not, give it a whirl yourself when you're pining for a cleaning. --Weber, Eldorado, R. 5 Bulletin.

DON'T THROW AWAY YOUR TIN CANS

We are told that when pack rats attempted to carry off both Lookout Jack Benson and his camp, he decided to get rid of the rats. He found a tin can-after a long search-and cut the bottom, dividing it into quarters, and pushed these sharp-pointed quarters in, leaving an opening large enough for a rat's head. "The rat" says he, "will stick its head through the opening, try to pull it back and then......."

He fixed one can, baited it, and went to bed. During the night a tin can began thumping on rocks. A rat was in his trap. Jack added six more traps, baited them, and returned to bed. Next morning seven rats were found running around with tins cans over their heads.

FROM THE CASS LAKE TIMES, MINNESOTA

"Is forestry practical? Ask some of the men who in times past fought the Cass Lake National Forest tooth and nail. Ask the men who had to be shown. Our National Forest is the greatest asset Cass Lake has today."

THE TREE-TOAD

" 'SCUR'OUS-LIKE," said the tree-toad,
"I've twittered fer rain all day;
And I got up soon,
And hollered tel noon -
But the sun, hit blazed away
Tel I jest clumb down in a crawfish-hole,
Weary at heart, and sick at soul!

"Dozed away fer an hour,
And tackled the thing agin:
And I sung, and sung,
Tel I knowed my lung
Was jest about give in;
And then, thinks I, ef hit don't rain now,
They's nothin' in singin', anyhow!

"But I fetched her! - O, I fetched her-
'Cause a little while ago,
As I kinda' set
With one eye shet,
And a-singin' soft and low,
A voice drapped down on my fevered brain
A-sayin', - 'Ef you'll jest hush I'll rain!' "

-J. W. R.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 32 Washington, D. C. August 10, 1931

A BIT OF RETROSPECTION

By W. J. McDonald, Chugach

During the summers of 1904-05 and '06 I worked for the U. S. Geological Survey in both the coastal and interior regions of Alaska. My duties were varied and included those of assistant topographer, rodman, and boatman, - to say nothing of the time put in helping the packers round up their half-crazed mosquito-bitten horses.

This work proved so agreeable that I put in the next two or three years as levelman and rodman with the Katalla Company, which was constructing a railroad from Cordova to the famous Kennecott copper mines located about 200 miles inland.

Shortly after this, former Chief Forester Pinchot visited the Cordova section, which was then the hotbed of the anti-conservation element. Besides being hung in effigy at Katalla, Pinchot had serious difficulties in securing a suitable hall in which to hold his hearings. Through the efforts of a public spirited citizen, a hall was procured and, among a large gathering, I had the privilege of listening to Pinchot calmly and logically refute about 99 per cent of the alleged complaints against the Forest Service blight(?) in Alaska.

From my former work and experience in Alaska, I concluded that Pinchot's arguments were about right, and in May, 1913, I cast my lot with the much maligned Forest Service. I took this step in spite of the repeated warnings from my friends, who solemnly assured me that it would only be a short time before the despised Forest bureaucrats would be forced to leave the country.

Proudly pinning on my Forest Guard badge, and in company with the Supervisor and a couple of fire guards, we set forth to carry on the protection work in the Anchorage district, which then comprised about three million acres. On reaching Seward we were hailed by the local paper and residents as "Pinchot cadets" and "spark detectives" who were bent on putting out forest fires that not only eliminated mosquitos, but also bared the rock formation which aided the prospector to locate conveniently outcroppings of gold-bearing ledges.

With fire tools consisting of shovels, axes, and mattocks, land transportation largely limited to rough prospecting trails, and water transportation by dories powered with good old ash oars, our obstacles seemed numerous and vastly discouraging. However, our leaders were resourceful and imbued with the Service spirit of accomplishing jobs under the most adverse conditions.

As the years rolled on and our contacts and work increased, public opinion slowly but surely changed, and today we are enjoying a good measure of public cooperation which only comes from putting across jobs based upon the broad policies embodied in National Forest administration.

While our work is by no means completed, I feel we have made a fair measure of progress, and our efforts have borne considerable fruit.

Quite often, when I am travelling outside the Forest, some farmer or business man will say to me, "Say, Mac, the forest fires are not only burning up our timber, but they are destroying the ground cover of our fur bearers. How do we go about it to get this region included in the National Forest?"

I don't know how you fellows would feel about it, but I get a whale of a kick in replying to such inquiries.

WORD FROM THE REGION 1 FRONT

Friday, July 10, was one bad fire day, believe me. The Clearwater fire was sighted about 5 o'clock in the morning. Two men were on it within one-half hour, as near as the records at present indicate. By 6 a. m. the thing was running; by 10 a. m. the thunderheads of smoke were showing up over Missoula, and by evening the grand sweep had been made. There was practically no extension of the perimeter after the first day. Some line was lost in the Hemlock drainage on the west half of the northern flank. Hemlock drainage burned out in 1919, some clean burn on the 1910 mess and some ground fire in virgin timber. It was a representation of the zenith of fire danger insofar as volume of combustible material is concerned. The fire was stopped in this mess after losing one line across the canyon. Fortunately, the first day, by marshaling road crews and blister rust crews, some 450 to 500 men were at work on the fire. Counting lost line and all, the fire was rounded up by the 15th, -- 60 miles of held lines. I presume the lost line amounted to some 4 or 5 miles. One plow unit put in 10 miles of trench. It kept on the heels and waited for 111 men to clear the right-of-way. This was one of our organized units from the Nezperce under the leadership of Assistant Supervisor Blake. Koch, who rushed to the Hemlock Creek flank in realization of the vulnerability of that drainage, reports that in all his experience in Region One he never saw the organization go up against a harder fight, fight as close to the fire, and hold its grounds. Fire surrounded one camp in the bottom of Hemlock Creek. Trenches were dug and the equipment put in but not covered, for the reason that after placement of the camp in the safety ditches there was a lull in the fire and he managed to convince the men that there was still a fighting chance to work from that camp. Twenty-seven stayed with him. He ordered the others down the canyon about a mile, where they were held. As soon as the flurry was over, the crew was reorganized and slammed in another line which has been held up to this time in a most precarious mess of snags and down stuff. The mop-up job on the fire is tremendous. It is going forward in a well organized manner but it's costing a lot of money. A great deal of damage was done in Hemlock Creek. The area was well stocked with white pine. We deplore the loss. Our only comfort lies in the fact that we might have lost it all and a whole lot more. I think it can be truthfully stated that never before in the history of fire control in this Region, or in any other place, has a fire so large been rounded up so promptly with so little loss of line.

I can give you no estimate of the cost of held line at this writing but we do know that we exceeded the customary limit of a chain per day per man although it won't be a great deal more, eliminating the line that was lost from the total calculation.

The Rock Creek fire started about two miles above the old town of Quigley, originating from a cast-off cigarette - at least, this is our best guess. It was bounded on one side by the river and on the other side by the road. Four men reached it when it had spread over about 100 square feet. They rounded it up in this area, or one slightly larger, but while the crew was so engaged, a spark blew across the Creek, a distance of about 250 feet. It ignited the material on the steep slopes and it raced before the high wind as if the devil were at its heels. Soon this fire swept sparks back across the Creek, so that from the jump-off there were two fires going, one on the east side of the Creek and one on the west. One of these blew into two separate fires again, so there were in reality four fires widely spread within the first hour or two. All were burning in extremely rough, broken country and developed very irregular perimeters. Some burned together in parts. This accounts for the great length of line on a relatively small acreage. No appreciable damage was done by this fire. The great bulk of the burned area is out of sight of the road. This is a happy fact, inasmuch as Rock Creek is such a popular recreational area.

On the same day the fire started in Gold Creek, a tributary of the Burnt Fork of the Bitterroot. Its origin was in a blind area, - cause unknown. May have been a hold-over lightning fire. On the other hand, the woods are full of prospectors, which gives color to the possibility that it was man-caused. It also was in a 1910 reproducing burn. To make matters worse, one corner of the fire has its perimeter in a half killed spruce bottom. This corner has given trouble from the outset, but, notwithstanding, has been successfully held, but at great cost. Small sections of line have been lost, but each time the crew has jumped right in and reestablished control. You know that a spruce bottom represents about the worst possible kind of situation to mop up. I have every confidence that the boys are going to do that job. Pumps are being used everywhere possible, but water is pitifully short on the east side of the Bitterroot this year.

The above description accounts for our three big fires, but others are cracking daily.

About 5 p.m. a splendid citizen of Iron Mountain threw a cigarette into his back yard and soon he had the forest aflame on the steep slopes to the south of Iron Mountain. A plow unit was rushed from the Remount Depot to the scene. By 2 a.m. this fire was surrounded by a control line in spite of the steep slopes and the excessive dryness of the vegetation in that section of the Lolo. It is one of the spots that has had practically no precipitation this year.

Saturday, a fire presumably of incendiary origin, inasmuch as a number of other incendiary fires had been set that day in the Blackfoot country, started in Moose Creek in the Lincoln District of the Helena. We had but meager information concerning it. However, we roughly estimated that we would have about three miles of line to put in to surround the fire. The plow unit had just returned from Iron Mountain after an all night out. It was dispatched forthwith to Helmville, a distance of about 100 miles from the Remount Depot. It was on the job by daylight, or before. The fire held over the first work period, but by Sunday at 6 p. m. 3½ miles of perimeter had been thrown around that fire. It, also, was in a 1910 reproducing burn with some open country along one flank, but how much I can not state.

Sunday about 3 o'clock one of the N. P. engines going down grade between St. Regis and Paradise set 5 fires just north of Quinn on the cutoff. Well, this fire started where the gash is the deepest and the slopes the steepest and the vegetation the driest. Precipitation has been so light in that section that the grass and weeds did not start new growth this year. The last year's material is over dry, one might safely say. The N. P. got all available section hands on the job as promptly as possible. A special train was run out of Missoula bearing firefighters under the leadership of Jefferson. This fire was rounded up - trench being completed on Monday at 11:30 a. m. despite the bluffs, crags, sliding trees, and what not.

The temperature yesterday was 103 with relative humidity down to 7. At Priest River the thermometer registered about the same with humidity at 4. I was in Spokane yesterday with Dr. Stockberger. At 5:30 the thermometer in the shade in front of the Davenport stood at 106 and so far as I could tell there was no humidity in the air. It was the first time in my experience that the air was so hot as to scorch one's eyeballs. I have had that experience driving across those plains between Willows and Log Springs east of the California and between North Fork and Madera. Truly, the situation is ripe for a fire season that will back 1929 off the map. With the exception of the wind of July 10, the air has been behaving itself and clear skies have predominated. We are in mortal fear that the heat wave will break into a series of dry electrical storms.

I am greatly worried about the conditions in certain of our Eastern Montana Forests. The Absaroka Forest is literally blowing away. I drove down the Yellowstone River on the evening of July 10 at a rate of 40-45 miles per hour and my engine boiled consistently. Evidently the wind was moving very much faster than I was. Everything is baked to a crisp in that region.

The Beartooth is also extremely dry and the Custer is worse than dry, it's cooked. The Deerlodge and that portion of the Helena along the Continental Divide are in a precarious state of desiccation. The Beaverhead is rapidly getting that way. The Gallatin and the old Jefferson and Lewis & Clark and the Big Belts have had enough rain to keep them fairly fresh.

The Kootenai, the Coeur d'Alene, the Kaniksu and the Pend Oreille have not reached a Critical condition of dryness. If the customary shower of lightning does come, all I can say is that I believe the organization is going to do its level best and the best is going to be on a high plane.

At this writing, 9:10 a. m., July 21, every fire is under control and if we can hold the lid down until 5:30 tonight, we are going to have no "busts" today.

Forest officers for overhead are at a premium. We are trying to build up a supplemental force of good foremen. As these are released from corralled fires they are rated and held for others.

To credit the itinerant laborer, who is in dire need of something to eat, and despite the ever present prophecy and assumption that he is going to burn up the woods, no evidence is at hand to date that he is engaged in any such discreditable enterprise.

Missoula is over-run with floating labor. Men stand in line for hours at the employment office with the broiling sun beating down on their backs, patiently awaiting a chance to remove a few wrinkles from under their belts on a firefighting job. Pitiful conditions. We are following practice of giving every man hired a lunch when he mounts the truck, finding that many are in a famished condition.

Busy preparing unemployment estimates as a matter of diversion from a few other incidental demands upon our times.-E.W.K.

WHAT PRICE WOODPECKERS?

By E. N. Munns, Washington

Strange as it may seem, the story of the Boy Scout who did his daily good turn by shooting a woodpecker, has its basis in fact. Thus we find that early British parishes paid bounties for killing "vermin" and among the vermin were woodpeckers. Apparently the mistaken notion held by the Boy Scout that woodpeckers were destructive was also held by the parishoners of the 17th century, for among old accounts appears frequent mention of woodpecker bounties paid various individuals. Thus in one Parish, that of Llanynys of Denbighshire in Wales "An Acte for preservation of Grayne" etc. in 1566 made it incumbent upon the authorities to award head-money at certain rates, that for woodpeckers being one penny. This same act established the rate for badgers at 12 pence, others at two pence, and weasels, ravens (crows) and skunks along with the woodpecker at one penny. These rates elsewhere were higher and lower as the "vermin" were more troublesome or abundant, and even varied from year to year in a single parish. Thus are found records of bounties as follows:

		Shillings	Pence
1739	For killing an Woodpicker	0	8
1742	pd Jo Edwards and Jacob Davies for plaistering ye Church Wall and for Killing foxes, pole catts and wood Pikers	19	2
1744	pd Richard Davies for shooting 2 wood Beckers and to Jo Edwds for a pole Catt	1	8
1745	pd for Shooting an wood picker	0	4

"WHAT DO YOU MEAN? WATER CONSERVATION!"

Learn from one who is an adept in the art of water conservation. Being a lookout, it is one's major duty to know how. His weekly allotment of 30 gallons arrives, and immediately the machinery of conservancy is put into motion, which clanks along smoothly until the afternoon of the day before the next allotment is due. Which means there is at least one breakfast during the week which is eaten dry, that is to say coffee-less and without the usual face bath.

In no case does one ever wash his face and hands more than once daily, and dry-shaves are the vogue. When Saturday night comes, a carefully measured quart of water is placed in a deep slender basin, (to make the water deeper) into which one places his left foot, and beginning at the north end with soap and rag progresses down the left side to said foot. When the journey is completed, the cleansed member is withdrawn (after draining carefully) and the right inserted and the operation repeated for the remaining side. Having finished, the used water is carefully hoarded against a future use.

Monday is wash day, and this operation calls for the greatest expenditure of water. Frequently, five gallons is required, but there are times when four and one-half suffices. This job finished, the remaining water is placed with Saturday's bath water in a cool, shady place to prevent excessive evaporation. From time to time during the week, additions are made to this salvage, and when it reaches a certain level, predetermined, it is used to mop the floor. Having performed this service, the residue is carried down stairs and poured around the cantaloupe vine, the six inch cherry tree and the grape vine—thus serving a last but noble purpose.

When it rains (which it often does in a pig's eye) all available vessels are placed under the dripping eaves. If lucky and a sufficient quantity of this surplus is the reward, one immediately goes on a water-jag, from which he emerges three days later with a wet complex headache and swears never again to vote anything but a straight dry ticket.

One must never be over energetic in his movements about the station for perspiration is waste, and for the same reason, certain radio programs must be carefully censored to prevent possible anguished tears.

In the final analysis, one comes to the conclusion that Heaven must be a place where a torrential deluge is constantly in progress, where one grows fins instead of wings, dresses in bathing suits and carries a celestial bucket and sponge wherever he goes, and umbrellas are works of the devil.

Drenchily yours,
/s/ Luke Oudt: Angeles (From R. 5 Bulletin)

YE EDITOR DISCOVERS

The question of how to calculate the growth of reserved trees on cut-over lands has puzzled foresters for a great many years. Recently in the course of his studies in western yellow pine Walter H. Meyer of the Pacific Northwest Forest Experiment Station has found that the western yellow pine tends to assume a certain form; trees with a high form factor tend to develop a lower form factor and those with a low form factor tend to develop a higher one. This new form for all released trees is somewhere in the neighborhood of .700. When applied to volumes where the stand is composed of trees of both high and low form factors the chances are strong that the volume table will apply at any period as well to the released stand as it did to the original stand. If Meyer's theories work out and are substantiated by more adequate data and in other regions, they will put at ease the minds of all those who have feared that the marked diameter increase following cutting was not carried proportionally throughout the tree's bole. Meyer's measurements were taken on 174 trees on 10 different forest areas in Washington and Oregon and on trees released from 20 to 40 years.

- - - - - - -

Total National Forest receipts were $4,992,873 for the F. Y. 1931, $1,758,680 less than for the F. Y. 1930. This decrease was due chiefly to the shrinkage in timber sale receipts in all Regions. Grazing receipts as a whole showed a slight gain, cattle and horse grazing fees amounting to $1,029,649, as against $992,304 the year preceding, and fees for sheep and goats to $918,063, as against $931,649 the year before. Special use permits showed a gain of $1,459. total receipts of $301,716. Water power fees were $112,307, with a gain of $4,814. Timber settlements amounted to more than twice those of last year, reaching a figure of $68,093. Turpentine sales also increased from $11,588 to $17,773. Other items in the year's receipts were: Timber trespass, $6,698; grazing trespass, $12,723; occupancy trespass, $937; fire trespass, $10,102.

- - - - - - -

With the title to some lands near Lake City, Florida, and in the Osceola Forest passing formally into the hands of the Federal Government, the Southern Forest Experiment Station and the Bureau of Chemistry and Soils are actively planning work, the former on the development of these lands into an experimental forest and the latter on the development of a naval stores laboratory which will investigate methods of producing rosin and turpentine from slash and longleaf pine gum.

The laboratory of the Bureau of Chemistry and Soils will consist of a number of different types of stills and other apparatus to clarify and improve the quality of the final product. This laboratory is made possible by special appropriation of Congress. The Olustee Experimental Forest, which takes its name from the old battle field of Olustee where one of the bloodiest battles of the Civil War was fought, will be developed from the standpoint of producing both forest and rosin products. Much of the naval stores work which has formerly been concentrated in the vicinity of Starke, Florida, will be transferred to this new unit and silvicultural investigations, designed to work out management methods and silvicultural systems for slash and longleaf pines, will be inaugurated on the new area.

The lands to which title has just passed constitute one of the finest bodies of 40 year old second growth pine that is to be found in the Southeast. The area is on a main highway between Jacksonville and Lake City and readily accessible to the industry.

V. L. Harper will be in charge of the experimental forest and L. Wyman will continue to carry on the investigations at Starke.

- - - - - - -

Communication has just been received from the Director of the National Forest School at Nancy, France, stating that one of their graduates by the name of Schafer is planning on a trip to America in August to gather some information on forest conditions in New Hampshire and Vermont. Mr. Schafer will probably visit the White Mountain Forest and the Vermont Purchase Area in the course of his travels through the Northeast.

- - - - - - -

Dr. Elton J. Lodewick, who has been professor of forestry at the Virginia Polytechnic Institute at Blacksburg for several years, has recently been appointed to the staff of the Pacific Northwest Forest Experiment Station. He will have charge of forest products research at this Station and will take up his new duties within the next few weeks.

WESTERN LUMBERMEN FIGHT BLISTER RUST

By S. B. Detwiler, Office of Blister Rust Control

During the past few years, both western lumbermen and foresters have awakened to the seriousness of the invasion by white pine blister rust of their chief commercial western white pine areas. This pine area is located in northern Idaho and adjacent parts of Montana and Washington that comprise what is known as The Inland Empire. The rust threatens the existence of white pine on enormous areas of Federal, State and private lands in that region. White pine is the chief source of forest income on these lands and, therefore, the need for prompt and effective action in controlling this virulent disease is of primary importance to the economic welfare of the region. The rust was first discovered in the midst of the pine belt during the summer of 1928. Since that time, several infection centers have been found. The most menacing infection center so far discovered in this region is the Long Meadow area, near Elk River, Idaho.

For several years prior to 1929, the Office of Blister Rust Control conducted experiments in methods of eradicating currant and gooseberry (Ribes) bushes. During that time, cooperative work consisted chiefly of control reconnaissance, which comprises a systematic survey of the lands of the cooperating organizations to determine the extent of the white pine areas and the presence of Ribes on them, to serve as a basis for eliminating the costs of blister rust control.

This cooperative survey resulted in the establishment of a concrete plan for control of blister rust in the Inland Empire on an area of 3,100,000 acres, including the best of the white pine lands. In 1929, the disease was found to be rapidly establishing itself in this region, and steps were taken to initiate practical control work under the program. This control work consists of the systematic eradication of wild currants and gooseberries from the land bearing white pine, and is being done cooperatively by the timber protective associations (which combine both State and private owners) and the Federal government. Over 50 per cent of the western white pine forest acreage is within National Forests and on the public domain.

According to the plan of systematic control work proposed by the Bureau of Plant Industry, this eradication work for the first few years has been confined to the stream bottoms where the most dangerous Ribes occur in the greatest numbers, and will be followed later by eradication measures on the remaining area. The concentrated occurrence of Ribes in the stream bottoms is favorable to an improved method of eradication by the use of toxic chemicals. This has made it possible to clear the bottom lands of these bushes at a much reduced cost as compared to hand-pulling.

The interest in the protection of white pine from blister rust is indicated by the considerable sums of money spent by the lumbermen in northern Idaho for control work. The Clearwater and Potlatch Timber Associations jointly with the State of Idaho spent about $20,000 in 1929, and a similar sum in 1930. For the current year, these and other Idaho organizations will spend over $40,000 on this work.-Clipped from "The Blister Rust News."

A STUMP HERDER VISITS DENVER

By J. G. Cayton, Montezuma

Believe it or not, I am more satisfied out in the hills than in a city the size of Denver. The first afternoon after I arrived in Denver last August, Mrs. Cayton and I went down town on the street car (this was my first trip to Denver or to any city of nearly its size since 1920). She gave me a couple of street car slugs for our fare, got on the car and went to her seat. I got on, looked for a slot at the bottom of the receptacle where one puts the slugs, couldn't find any place to put the things. The motorman tried to give me a transfer, I shook my head, I didn't have any use for it that I knew of; he grinned as I finally found that the slugs went down through the holes in the top of the receptacle. My wife got quite a laugh out of it when I told her that I was looking for a slot at the bottom of the thing to put the slugs in, and not talking to the motorman.

I had begun to feel that I was getting "city-broke" after I had been going down town alone for about a week and getting back again without getting lost, and being able to find my way from one building to another wherever I happened to wish to go. Of course, it was only a part of the game with me to ask about a dozen policemen or newsboys every day which way to go to a certain place. I used the federal building for a starting point each day and got along pretty good, when one day I discovered upon getting to my starting point that someone had moved the building one quarter around during the night before!

On my way home the train stopped in Colorado Springs for a few minutes. I was out on the platform and saw lights crossing, seemingly, to me, in the air a little higher than the train and just ahead of it. I asked the porter if there was an airplane landing field near here; he said that there was not. I then said that those lights looked like airplanes flying low. He said that he didn't see any lights of any airplanes, all he could see was the cars crossing the viaduct!

Me for the hills. But, although I got lost pretty easily in Denver, I fully believe that I can lose nine-tenths of the people who live there, out in the hills.-R. 2 Bulletin.

CONNECTICUT HAS OLDEST WATER POWER SAWMILL

The Simonds Saw publication in a recent issue shows a picture of what is said to be the oldest water power sawmill in the country located at Norwalk, Conn. This mill has been in use for about 150 years and is now operated by Fred W. Buttery. Mr. Buttery runs the mill single-handed most of the time, using a hand windlass and crane to handle the logs. - R. 3 Bulletin

ARBORICULTURAL

The magazine Tree Talk says that trees commit suicide by wrapping their roots around their trunks and choking themselves to death. Now we know why willows weep and others pine. The elm, however, we feel is too slippery. Having got at the root of this thing let us leaf it as it is. Trunk mysteries are always depressing, so why branch out. Besides, a trusting reader can be twigged too much. - Detroit News.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 33 Washington, D. C. August 17, 1931.

SOME DESCRIPTIONS OF PRAIRIE FIRES

(From "Ioway to Iowa," by Irving Berdine Richman. 1931.
Published at Iowa City by State Historical Society of Iowa)

The prairie fire came logically in the autumn, but it might come in the spring. In the autumn the grasses and the weeds, crisped by Iowa summer heat, were dry to the point of jubilant explosion. "Back over the prairie sprang up a round cloud, and fire rose out of the heart of the grass. The reds and yellows of the flowers exploded into flame ... Winds charged the fire, lashing it with long thongs ... and the fire screamed and danced and blew blood curdling whistles ... Animals ran -- ran -- ran -- and were overtaken, shaken grass glittered up with a roar and spilled its birds like burnt paper into the red air ... The people in the village ran - ran - ran - and the fire shot them down with its red and gold arrows and whirled on, crumpling the tepees so that the skins of them popped like corn."

In 1873 a Hollander wrote: "I fancy that anyone who has read a brilliantly poetical account of a prairie fire and seen it likened to a 'rolling sea of fire, miles in extent, sweeping forward on its destructive course, driving before it whole herds of wild buffaloes, deer, and antelopes, dashing along helter-skelter in desperate terror,' shall feel disappointed when he gets to see nothing more than low-lying flames, advancing slowly . . . The sight does not impress one much, at least near by, and I am not surprised that a certain traveler avenged the disenchantment of his high-strained expectations with the disdainful exclamation: 'A spectacle to be hissed at!'"

In early Iowa there were, it is evident, prairie fires and prairie fires. To the east and south, where the timber was greatest and the prairie least, the fires were commonly of the order sketched by the Hollander. They progressed leisurely and might be checked or diverted by turning up ground, or by backfiring (burning away the surrounding grass). Then, too, save in rare instances, farm structures were more or less sheltered by the timber. They stood within it or on its edge.

"I well remember," says an Iowa correspondent, "a prairie fire of 1855. I had 'inherited' a dog with our farm. One day he and I were busy some distance from the house making war upon a woodchuck . . . Rover had made a considerable excavation . . . throwing the dirt out in quantity . . . When next I remember, my mother was leading me home . . . as she afterwards told me she found me sitting in the hole fast asleep, Rover stretched across my feet . . . Meanwhile a prairie fire which had reached us from tuft to tuft, stepped quietly by leaving us protected by fresh earth entirely unharmed, unawakened!"

Prairie fires at times had to be met head on. Then came into play the gunny sack, the mop, the broom. Old sacks or pieces of clothing plunged in water and wielded by the brawny arm helped greatly, it is said, in averting serious loss. "To the southwest," relates a pioneer of northeastern Iowa, "came one day in October, 1871, at the pace perhaps of a fleet horse, the fire demon . . . The wells at that period were dug wells some ten feet deep, some twenty, and some perhaps forty. But the well I have in mind was shallow, about ten feet deep with nearly three feet of water in it. To this well my grandmother fairly flew with the children after her. She quickly climbed into the well and dipped water which she handed to the others who saturated blankets and quilts and threw them on our old log cabin . . . Their efforts seemed futile and my grandmother put the smaller children in the well for safety."

A Methodist circuit rider who traversed northwestern Illinois and northeastern Ioway in October, 1835 writes: "The last 12 miles, we travelled after sundown, and by fire light over prairie, it being on fire. This was the grandest scene I ever saw, the wind blew a gale all day, the grass was dry . . . some men were kindling fire to burn it away from their fences and then let it run -- no odds who it burnt up. As the dark came on, the fire shone more brilliant. A cloud of smoke arose on which the fire below shone, and the reflection could be seen for miles - in some instances 40. . . We had in view at one time from one to five miles of fire in a streak, burning from two to six feet high. In high grass it sometimes burns 30 feet high, if driven by fierce winds. By the light of this fire we could read fine print for ½ mile or more. And the light reflected from the cloud of smoke, enlightened our road for miles after the blaze of the fire was out of sight."

Research explains that in Iowa, as elsewhere, the spread of prairie was due in the main to evaporation; and that evaporation was due in the main to two agents, the two o'clock summer sun and the southwesterly summer winds. "While," says the account, "there can be no question as to the extent and destructiveness of prairie fires, they must be looked upon . . . rather as an effect than a cause, for nowhere in Iowa or adjacent territory has there been any marked general encroachment of the forest on the prairie when the fires ceased . . . It is evident that fires constituted no more than a local secondary cause."

BARKING UP THE RIGHT TREE

By Walter H. Meyer, Pacific Northwest For. Exp. Sta.

We are not speaking figuratively this time, but literally. Trees are peculiar organisms when it comes to putting on a protective coating of bark. Some species have extremely thick layers and others have extremely thin ones. Even the art of tree climbing is affected by bark thickness, as the poor wretch who has to do the climbing must allow for the thickness and scaliness of the bark by having sufficiently long spurs on his climbers. With western yellow pine, for instance, for which a growth and yield study has been conducted for the past three years in the North Pacific region, it has been only lately appreciated that the volume of the bark is equivalent to 20 to 30 per cent of the actual wood volume of the tree, or that the thickness of the bark is 12 to 18 per cent of the total diameter breast high outside bark. Such relationships and many others were worked up as a necessary part of a study of the form and volume growth of western yellow pine trees involving measurements on almost 3,500 trees of all types and classes. To use a well worn illustration, let us say that if all the bark measured were laid side by side it would form a layer almost 800 feet thick.

Actual bark thickness increases with diameter, but the percentage of bark thickness decreases. The immature tree classes 1, 2 and 6 by Dunning's system have no significant variation in their respective trends; neither do the mature tree classes 3, 4 and 7. On the whole, however, the immature classes have slightly thicker bark than the mature trees by a few tenths of an inch. The over-mature trees, Class 5, have materially thinner bark at breast height than any of the other classes. On the average the immature and mature trees have a two inch double bark thickness for twelve inch D.B.H.'s increasing to five inch double bark thickness at 40 inches, while the over-mature trees have a 2.5 inch double bark at 20 inches running up to four inches at 40 inches D.B.H. These trends and values with many others are shown in an office report titled "Bark thickness and bark volume of western yellow pine," which was lately prepared at the Pacific Northwest Forest Experiment Station, as a by-product of the growth and yield study of this species.

EXCERPT FROM A NEW REPORT OF THE PERSONNEL CLASSIFICATION BOARD

(House Document No. 773 by Herman Feldman.)

One of the units in the Federal service which has been conducting a type of executive training is the Forest Service of the Department of Agriculture. The activity is called a discussion study course and attempts through correspondence to apply the conference method of instruction. At regular intervals lessons are circularized, in mimeographed form, among the various foresters. In 1929, the series of discussion assignments dealt with the general subject of executive management, and attempted to summarize briefly the accepted principles found in industrial practice and literature, with suggested applications to the specific problems of foresters. The bulletins circulated included such subjects as direction and supervision, decisions, the fire problem, planning, responsibility, incentives, training, inspection, and control.

The lessons are written not so much with the idea of giving information as of provoking thought, reading, and discussion. The men participating have a chance to look at the subject afresh, to discuss it from their own viewpoint, and to send their discussions to the director of the course. The latter chooses a representative number of these communications, has them mimeographed, and sends them back for more general perusal. The opportunity given to formulate opinion into written discussion has been found to help the participants in thinking more carefully about various subjects and to crystallize their ideas into more definite form. Through the composite picture of the ideas of others on the same subject they are able to get a more rounded view of various problems. District Forest Inspector Peter Keplinger, the director of the course, wrote on May 1, 1929, with regard to these assignments:

"The method we use is quite valuable for an organization such as ours, that is widely scattered. It brings us at little cost a degree of contact that we could not otherwise get. It promotes unity of thought and developes esprit de corps. Furthermore, it makes each man feel that he is contributing something and frequently he is. The discussions from the field are an essential part of the idea.

"The results that count will be reflected in the work of the men, and it is too early yet to know to what extent this will be realized. All we know now is that the study has created a great deal of interest and caused considerable reading and thought. We know a good many men think it has helped them to get a better grasp of the functions of their job and given them an idea of how to go about improving it. We know that some men are already analyzing their jobs and planning more systematically.

"Last year we discussed cost accounting. As a result we know that many men are making better use of our cost records and that the discussions paved the way for material improvement in our cost keeping system. Next winter we plan to discuss personnel management, emphasizing the elements which mean most to us in our work."

The Government would be aided in training work for its minor executive personnel through the availability of members of the staff of the Federal Board for Vocational Education, an agency having wide experience in this kind of work. The Federal Board has published some of the best material available for the training of foremen and supervisors in private concerns, and has conducted experimental training work in large industrial organizations. It would merely be using the experience of this board to call upon it for the preparation of the plans and text material needed for a course of similar character with regard to the supervisory personnel in the Government service.

Finally, the Government must also face the fact that from time to time executives will be discovered who will not be greatly improved through training, suggestion, or other measures. In those cases a change of assignment to work more suited to those individuals is imperative for the good of the service.

ACCOMPLISHMENT

In Region 7

Now that we have just completed the largest road and trail program for any like period in the history of Region Seven it is a good time to pause a moment and examine the record. The final figures are not yet available, but the facts are that all except a small amount of 10 per cent and regular forest highway funds were spent or obligated. Several Forests even anticipated the 1932 appropriations and incurred a combined liability of more than $25,000. Region Seven was allotted $793,000 from the regular emergency fund and nearly $115,000 from the emergency forest highway fund. Then the Forest Experiment Stations asked us to build some roads for them at about $25,000, making a total of $933,000. Besides all this emergency money, the Region had balances in the regular road funds amounting to $130,237 (F.R.D.), $127,233 (F.H.), and $56,114 (10 per cent), the greater part of which was also spent.

The Region was considerably understocked in its supply of road equipment, so that with all the emergency construction the first thing was to purchase the needed machinery. The first orders for tractors and graders were sent out on the day the funds were released, but it was nearly three months before the bulk of the equipment was delivered. Altogether, equipment purchases amounted to approximately $400,000, and now there is an excellent supply of modern road machinery on every Forest.

Some of the forest reports are not complete, and I have had to estimate the accomplishments in several instances:

New roads and motorways	586	miles
Betterment (incl. surfacing)	82	"
Trails	263	"
Equipment depots	21	

Construction projects varied all the way from 48 miles on motorways on the Kisatchie at $16 per mile and 94 miles on the Choctawhatchee at a little over $200 per mile up to 5 miles of forest highway 22' wide up Mt. Pisgah and 10 miles of like road in Fort Valley on the Shenandoah at $4,000 per mile.

The relatively large mileage of roads and trails constructed and improved the past six months has brought the completion of the road system for the Region appreciably nearer. The Ocala Forest has completed its system with the exception of surfacing the road intersections, while the Osceola, one of the youngest Forests in the Region, has its system more than half completed. The Pisgah and many of the other Forests have completed the most important roads and trails on their systems except for surfacing. It was thought that the

Forests in the northern part of the Region could not carry on road work effectively before April or May, but the Allegheny came back with a plan for gravel surfacing during the winter, placing it in the wheel ruts and on the road bed even though there was six inches or more of snow on the ground. I must admit that I was skeptical as to the result, but am glad to say that the plan worked out well.

Since the emergency appropriation was primarily for unemployment relief, there was some criticism of the considerable amount of road equipment purchased. Of course, in the final analysis, expenditures for equipment were in fact largely payments for labor. Regardless of this indirect benefit to labor, the purchase of modern equipment was entirely justified because of its effect in lowering unit costs. A combination of tractor, dirtmover and bulldozer on the Osceola was used to move dirt at 10 cents per cubic yard, while local contractors are still using mule teams and slip scrapers with costs of 25 cents and more per cubic yard. Another instance is the Mount Levi-Sand Gap 22-foot forest highway on the Ozark costing $3,000 per mile before adequate equipment was on the job and $2,000 per mile afterwards. - R. 7 Bulletin

In Region 5

Many thousands of people thronged the Angeles Forest during the double holiday starting with the Fourth. Yet with its thousands of pleasure seekers, not a fire was reported -- except at one spot where five square feet of brush was burned. Even this was extinguished by one Ranger, who trampled it out with his feet. - R. 5 Bulletin

- - - - - -

While the Inyo has no primary lookouts, the Rangers have their camping public trained to supply this deficiency.

The other day, while at the Mammoth Ranger Station, two parties of campers drove into the station within a period of 15 minutes to report a small fire along a forest road. Another camping party routed out the Ranger at 3 o'clock one morning to report a fire that the camper had no means of knowing was under control. - R. 5 Bulletin

- - - - - -

Yesterday afternoon Descanso called and reported a string of smokes in the King Creek country, on the Conejos Indian Reservation. Immediately our minds recalled the 20,000 acre fire there in 1929, and we made preliminary arrangements to spend the next several days rustling supplies and men. Lady Luck, assisted by quick work on the part of District Ranger Stephenson and his organization came to our rescue, however, and this morning's report is "all quiet on the western front."

One of the Indians had evidently meant to make a good job of it, and set a course down the canyon setting off approximately fifty places. Stephenson immediately got on his trail, but the Indian evidently heard him coming at the last "set" and made tracks through the brush. Steve chased him for a mile and a half but couldn't quite catch him or find out which one it was. And that was that, for there is no chance to get any information from the other Indians.

Burned about 25 acres altogether, and Steve needs a new uniform -- one size smaller. - R. B Bulletin

- - - - - -

Forest Supervisor–

Dear Mr. Douthitt:

I have just been advised that Earl Reuben and Dave Johnny pleaded guilty to setting these fires in the Klamath Forest. Upon recommendation of Assistant United States Attorney, Albert E. Sheets, they were denied probation by Judge Louderbach and were sentenced to three years in the Federal Reformatory. This occurred on July 11 at Sacramento.

Very sincerely yours,

D. P. DECHANT
Assistant to the Solicitor.

WHAT ABOUT THAT HOME FOR RETIRED FORESTERS?

By H. H. Simpson, Inyo

Mr. Cleator's article in the June 22 issue of the Service Bulletin rather intrigues me.

For many years I have had vaguely in my mind something of the sort. I had about made up my mind to make application for space on the North sleeping porch of the County farm, where I could continue to have an expansive view of the sagebrush, and every spring and fall sort of brush up my vocabulary as the bands of sheep come and go. I feel that some sheep to cuss will be absolutely essential to my well-being after retirement. Then there must be a few water holes within a radius of a hundred miles that are likely to dry up as soon as development is completed and watering facilities are installed.

Also there must be some technical men suffering from range formula complex. Really, you have no idea how their range condition formulae inspire one's vocabulary.

I wish Mr. Cleator had visualized some sort of a burying ground for the antiquated old hard-heads that would make life perfectly miserable for each other at his proposed home, and the while get full enjoyment out of their reclining days.

Personally it is my ambition to find some way to be turned into a Coyote after I retire so I can pass my reclining days killing sheep. Guess I will take that matter up with some technical man. There are probably numerous formulae that would do the work.

Anyway, I will pledge Mr. Cleator a hundred dollars to apply on the purchase of a forty on that lake with the salt water so near. I was born and raised in Puyallup, so tie that.

But why, may I ask, should we purchase a forty? Why not find what we want and locate it under the mining laws? All we would have to do is to sit tight with a chip on our respective shoulders, and after a lot of grief which we would enjoy hugely all adverse reports would be sidetracked and patent issued. Meantime we could enjoy the discomforture of the Forest Officer who had sufficient nerve to make an adverse report on an application for patent to a mineral claim simply because we were running a hot dog stand on it with a side line of home brew. Humph! The Idear.

YE EDITOR DISCOVERS

The Allegheny Section of the Society of American Foresters held its annual summer field meeting July 31 and August 1 on the Monongahela National Forest, Supervisor Arthur A. Woods and State Forester H. S. Newins acting as hosts.

About 90 foresters and others interested in forestry enrolled at Hotel Tygart, Elkins, West Virginia, where committee chairmen and members of the executive and program committees held meetings on the evening of July 30, following an informal get-together banquet.

Some of the points of interest to which trips were made included: Barton's Knob fire tower; Davis-Reger Fossil Tree park, an impressive exposure of geological formation containing fossil tree trunks on the State road three miles northwest of Elkins in the Tygart Valley; several wood-using industries; Parsons Forest Tree Nursery, where the foresters encamped for the night; the Canaan Mountain plantations, an area of 400 acres planted by the Forest Service from stock grown at the Parsons Nursery; the Canaan Lookout Station; and over the new Smoke Holes road, a Forest Service project made possible by the expenditure of emergency construction funds appropriated by Congress during the past year.

- - - - - - -

The reorganization of State Departments which has been contemplated in Georgia for some months resulted in the recent introduction in the House of a reorganization bill. One section of this bill provides for the abolition of the present forestry board and the placing of the forestry department under a Department of Natural Resources, which will also include the departments of fish and game, geology, and entomology. The bill provides explicitly that the present Fish and Game Commissioner would become Director of the Department of Natural Resources and that all appointments would be for a two-year term. Strong opposition to the bill was immediately aroused among the advocates and supporters of forestry in Georgia. Without a public hearing, the bill passed the House, but a hearing was held before the Senate committee on July 29, at which there was a very strong showing of opposition. C. F. Evans, District Inspector for the Southeastern States, represented the Forest Service at the hearing. To date the bill has not come to a vote in the Senate.

- - - - - - -

Recent transfers from administrative to research organizations are: E. M. Manchester, from the Pisgah to the Bent Creek Experimental Forest of the Appalachian Forest Experiment Station; T. E. Pease, from the Natural Bridge to the Olustee Experiment Forest of the Southern Forest Experiment Station; and P. B. Rowe, from the Fishlake to the California Forest Experiment Station.

- - - - - - -

Director E. F. McCarthy of the Central States Forest Experiment Station, who is resigning from the Service September 1 to become Professor of Silviculture at the New York State College of Forestry, has been in Washington for several weeks taking up certain matters with the Branch of Research before he leaves. While here he prepared for publication his manuscript on yellow poplar.

ANOTHER "FOREST PRODUCT"

Rabbits' feet have not lost their significance as good luck emblems. One commercial rabbitry in Michigan, disposing of from 8,000 to 12,000 rabbits every week, sells all of the front feet to concerns manufacturing good luck charms. - From the Weekly News Bulletin of the Mich. Dept. of Conservation.

- - - - - - -

Ranger Jack Pine says we don't need to keep wet blotters in our tobacco tins in Washington. It's not the heat - 95 - it's the humidity - 90.

SECRETARY OF AGRICULTURE VISITS THE ANGELES

In the company with Major R. Y. Stuart, Regional Forester Show, and Director of the California Experiment Station E. I. Kotok, the Secretary of Agriculture, A. M. Hyde, and his daughter Caroline arrived in Los Angeles Friday evening. They attended a semi-formal dinner meeting at the Alexander Hotel, at which time the conservation interests in Los Angeles were given an opportunity to voice their problems with the Secretary.

Saturday morning the party was conveyed to the Paramount Public Studios and to the United Artists Studios in Hollywood and shown first hand how moving pictures are made, and they had an opportunity to see Billie Dove, Clive Brooks, Douglas Fairbanks and a few other notables in person. This trip was arranged through the courtesy of Wm. R. Fraser, an ex-Supervisor who is now manager for the Harold Lloyd Corporation.

The party then made a trip to Mt. Wilson, arriving in time for dinner, and a small group of conservationists, including George Cecil, W. S. Rosecrans, Judge Cruzan and Dr. Clements, had an opportunity to discuss fire protection on the Angeles Forest at close hand with the Secretary, Forester, and Regional Forester.

On Sunday the Forester and Secretary motored to Pomona and back by way of Foothill Boulevard, to the Huntington Art Gallery and to their train for San Francisco.

The visit of the Secretary to the Forest was very much worthwhile and keen interest was shown by all members of his party in the protection needed in the South. The Secretary indicated that he had a better conception of the need for protection in the brush covered areas and the value to the local people, than he could have obtained in any other manner. – R. 5 Bulletin of July 31

COURSES IN KILN DRYING, GLUING, AND BOXING AND CRATING TO BE RESUMED AT LABORATORY

Instructional courses for kiln men, wood workers, shippers, and lumber and woodworking executives, which have been practically discontinued at the Forest Products Laboratory since the spring of 1929, have been given a definite place on the Laboratory's program for the new fiscal year and will be resumed this fall. A week's course in boxing and crating and transportation hazards of car movement will be given September 21 to 26, inclusive, and a course in the gluing of wood will be conducted during the same period. The kiln drying course, which runs two weeks, will start September 28.

The cooperative fee for the two shorter courses will be $100, as usual; $150 is the charge for the course in kiln drying of lumber.

HEIGHT MEASUREMENT OF "FATHER OF THE FOREST" REPORTED

By W. L. Sears, Angeles

Reference is made to Service Bulletin of July 13, 1931.

I was very much interested in Mr. Tiemann's article on "What are the Largest Trees in the World?" In the first paragraph under "Stump Diameters," the approximate length of the "Father of the Forest" in the Calaveras Grove was given as 400 feet high (no measurement). I was a ranger on the Calaveras District for three years and on one occasion, in company with District Forester DuBois, we measured this tree with a 100-foot metallic tape. From the ground line at the foot of this tree to the existing top was 410 feet. The top had been broken off and the diameter at that point at the time the measurement was taken was approximately ten inches but I do not believe there was very much of it gone. We were both very much surprised in the length and to correct a possible error we made a second measurement which was the same. Mr. DuBois will probably remember this incident.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. XV, No. 34 Washington, D. C. August 24, 1931

COUNTING THE TREES

By D. N. Matthews, in Charge of Forest Survey on the
National Forests of the Douglas Fir Region
Pacific Northwest Forest Experiment Station

"Have you counted all the trees yet?" Having been greeted so often with this query I am moved to recount as accurately as possible what a National Forest Timber Inventory party does when it is out on the job.

Scene: Elwha Ranger Station, Olympic National Forest
Characters: Paul Logan, Bud Paine, D. N. Matthews and two burros.
Time : Morning, June 19.

The action starts with a procession of the above characters moving up the Hurricane Ridge trail. We comment on the timber and note the very fine specimens of maple on the lower slopes. As we climb rapidly the timber becomes almost pure Douglas fir and we note that the trees are shorter, indicating a marked change in site. We discuss site, evaluating the stands we are in to make sure that we are together in our estimates of site quality. There is also a constant mental estimate being made of the stand per acre, and this we discuss also.

I note that Logan stops occasionally and makes a quick estimate of the volume on a quarter acre in order to check his judgment of the stand. Once we stop and tie up the burros and make a careful tally of the timber on a circular quarter acre plot, measuring diameters with a tape and checking the distance to doubtful trees near the circumference of the circle. We tally the trees by diameters and log lengths to merchantable height, having first measured a windfall nearby to check our judgment of height. Then we take out our volume tables and figure up the net total per acre volume before we move on. Such per acre values as may be determined in this way are used to train the eye and check the judgment of volume per acre. This building up of judgment is a constant day by day process.

In the afternoon we come out of the tinber onto a grass covered ridge and spend considerable time mapping in type areas in new country and discussing how to get in to see the timber on some of the watersheds without trails. We use a compass to orient the map and get our location by taking shots on known points. Type lines are located on the map by referring them to ridges and streams. From our vantage point, certain type lines as between timber and non-timber, either burns or sub-alpine, can be located very satisfactorily. The timber types are mapped subject to later closer inspection to determine the mixture of species and the volume per acre. It is from such points that the type map is built up day by day, seeing some new country each day and checking that already mapped by seeing it from a new angle. The per acre volume to apply to the type areas mapped is determined by going through the timber.

As is the case on each Forest, the Olympic was divided into compartments before field work began. A compartment is a minor drainage or logging chance usually containing from 5,000 to 20,000 acres and is the smallest unit of area used in compiling all the information secured in making the Inventory. In the field the types in each compartment are mapped and then the net stand per acre, per cent of different species, amount of defect, age, stocking and site quality for each type area are determined by observations which are constantly being checked by taking sample plots. The per acre values are figured up as soon as the plots are taken, in order to have the benefit of them in judging the stand per acre for an entire type area while actually in the stand. As an average, from one to three thousand acres are covered per day in this way.

Low clouds overtake us on Hurricane ridge and we move on to Idaho camp, put the burros out on honor, cook supper, cruise several million acres around the camp fire and finally roll into our blankets after one day of "tree counting" on the Olympic which could be duplicated in all essential features on any of the twelve Forests in the Douglas fir region.

YES, WE TOO HAVE LIGHTNING

By J. N. Templer, Deerlodge

I was in the act of demolishing an outworn motorcycle at the West Fork Ranger Station on the afternoon of June 18 when Ranger Skillman and his helper, Richard Richtmyer, rode in with a seven-horse pack outfit. I noticed that Skillman's face didn't light up with its usual wholesome grin when he saw me, but when I got a slant at Richtmyer I saw that something serious had happened.

The story of a lightning bolt striking these two men and their pack string of seven horses, knocking the entire cavalcade unconscious and all of them recovering without very serious injury, was the explanation of their lack of the customary exuberant greeting.

The unusual accident happened on the wooded slopes of Mt. Emerine, about 18 miles southwest of Philipsburg. The two men had just left the lookout station on the mountain top and were slowly winding their way down the rather uncertain trail when a bolt struck the telephone line approximately three-quarters of a mile back of them. The lightning consumed some half mile of wire and jumped to Skillman's head and Richtmyer's shoulder, the men being right under the wire and quite close to it. Both men were knocked unconscious, Skillman being the first to come alive. A grotesque sight met his eyes. The seven horses lay along the trail apparently dead, and nearby lay Richtmyer sprawled out as though dead. Skillman, as his brain cleared, crawled to Richtmyer and worked over him a few minutes until he came out of it and then began to gather up his horses (no small task considering that Skillman's right arm was totally out of commission) as they staggered to their feet. However, he finally succeeded in getting Richtmyer mounted and gathering up the outfit, proceeded to the West Fork Station. Both men were obviously suffering from shock when they arrived at the Station, and after administering first aid and getting them to bed, we took stock of the situation.

All of the horses had their knees or heads somewhat lacerated from falling on the rocky trail. Richtmyer's face was badly cut with three of his teeth more or less shattered, while Skilly's polished dome had an appreciable number of his few remaining hairs burned off. The men were brought to the Murray Hospital in Butte the next day and are expected to be discharged from there this week.

Skillman's account of his coming-to is vividly given in his own words:

"We never heard the crack of thunder. . . . . .the next thing I remember is looking up from the bottom of a 'lake'. The water was full of weaving incandescent gleams of colored light--green and gold and purple and scarlet. It was fascinating to watch. But while I lay there wondering what it was all about the lake disappeared and I saw the green pine boughs waving overhead. A gentle rain was falling, but the storm had passed." - R. 1 Bulletin.

THEM THIRTEEN HIGHEST PEAKS - FINIS -

By Jno. D. Guthrie, R. 6.

Since "The Ranger" of the North Pacific Region is being blamed and since I am the Editor of that sprightly(?) publication, I now come forward and admit my sins against the fair peaks of Alaska. This controversy has almost equaled former ones about the biggest and tallest tree, the uniform, and how old is Ann, in the pages of the Service Bulletin.

The item about "the 13 highest peaks" first appeared in the "Six Twenty-Six" of May, 1930, and was credited to the Federal Board of Surveys and Maps, of March, 1930; later, it appeared in "The Ranger" of R. 6 of October, 1930. Mr. J. H. Wheat of the Board is correct in stating (in Service Bulletin of July 6) that the original table gave "the extreme and mean altitudes in the United States and its outlying possessions", by states or possessions, that is, only the one highest peak in each state, territory, or possession was listed. Arbitrarily, I picked off the first thirteen of these, which showed the one highest point in each, and not mentioning, for example, all that other noble galaxy of high and unclimbed peaks of Alaska, the fair Northland, thus starting all this heated controversy.

It was my error in not making it plain that only one peak was selected in each state territory, province, etc. Had I done so, Alaskans would have been kept satisfied, undoubtedly, but the Service Bulletin would have been the loser for it wuold have been bereft of many, many articles during the past year; hence my omission has been, unwittingly, a benison to the Bulletin, and I now claim a cigar from its editor. (O. K. brother, under separate cover. Ed.)

COOPERATION

Following is a letter issued by the Burley Chamber of Commerce and sent to numerous citizens of Burley and vicinity:

"Dear Sir: July 15, 1931.

"You are hereby drafted to work on the Howell Creek road this coming Sunday, July 19, beginning as early in the morning as you can get there, and continuing till you hear the whistle for the mulligan at noon; resuming at 2:00 p.m. and continuing till we finish the job.

"The Forest Service early this season put in two new bridges and pushed the good road far ahead of what it used to be. And this week another Forest crew with dynamite and heavy machinery is beginning another campaign, which should enable us to drive nearly to the lake - provided we give them some help this coming Sunday. The road is now about a half mile short of the forks.

"Many rocks have come to the surface in the section of road below the forest line. These we must move. And there are a few high centers to be plowed out. The crew on the job this week will leave for us a lot of dynamited trees, which we will trim and pile, burning the brush. This work on the trees will be in shade, not too hot.

"And at noon at the second bridge, the mulligan, with plenty of 'fixins.' Bring your own eating tools. We are cooking enough for a hundred men, and boys.

"Spend a pleasant day on a project that will always be a joy to this part of Idaho. Let's make this one beauty spot accessible - some of the other such spots we will hold secluded for the hardy ones who want to hike or ride.

"WE MUST HAVE YOUR HELP NEXT SUNDAY. IF YOU HAVE NO WAY TO GET TO THE JOB, REPORT TO ME AND I CAN GET YOU OUT.

Yours very truly,
HOWELL CREEK COMMITTEE

Roy Painter
Chairman"

- R. 4 Bulletin

MORE REORGANIZATION

At the rate we are going, it won't be long until reorganization will be too common to be news; absence of reorganization projects will be the unusual and therefore news.

The latest reorganization is in Region 3, where part of the Datil has been added to the Gila and part to the Manzano. The New Gila will have a gross area of 2,437,000 acres, and the number of ranger districts will increase from 6 to 8. The new Manzano will have 2,305,000 acres.

The consolidation will save an appreciable sum of money and is, of course, made possible by a number of modern developments, one of the most important of these being increased road mileage, which has greatly simplified administration and reduced travel time requirements. In the old pre-motor era it took three days to reach the most remote Datil ranger district from Magdalena. Now, six or seven hours are all that is necessary to reach the same points from Albuquerque. Magdalena is offering the usual opposition. R. H.

YE EDITOR DISCOVERS

While the newspapers are carrying lurid accounts of forest fires which would lead the uninformed reader to think that vast conflagrations have been burning and are continuing to burn throughout the West, this is decidedly not true. Although several fires have got away and have done deplorable damage, they have been coralled with a degree of speed probably surpassing any previous record of the Service.

A large fire of 10,000 acres or more outside the Forest north of Boise is being fought by the Timber Protective Association, the General Land Office, and the Forest Service. The fire was still not controlled on August 11.

- - - - - - -

New bids for the Forest Products Laboratory Building were opened on August 11. The lowest base bid was $727,648, submitted by E. B. Fritz Company, Madison, Wis.; the next lowest was $744,300, submitted by J. P. Cullen and Son of Janesville, Wis.; and the third lowest was $759,000, submitted by J. H. Kelley, Madison, Wis. These bids are being considered by the committee appointed by the Forester to recommend the award of the contract. The committee's recommendations will probably be completed sometime this week.

- - - - - - - -

So many people write into the Washington office suggesting that forest fires be suppressed by water dropped from airplanes that the Branch of Operation has prepared a formal reply for such letters.

- - - - - - - -

Dr. Edward R. Weidlein, Director of the Mellon Institute of Industrial Research, at a recent meeting of the American Management Association in New York, made the statement that "The Forests Products Laboratory at Madison, Wisconsin, is saving $30,000,000 annually to American industry by the work which it has carried out."

- - - - - - - -

Since radio communication on the Columbia Forest is drowned out whenever the 250 watt transmitter on the nearby Rainier National Park goes on the air, the inter-departmental radio committee is being asked to assign different wave lengths to the Park Service.

- - - - - - - -

The Department of the Interior has agreed with the Department of Agriculture that the present boundaries of the Toiyabe National Forest are not correctly described, taking into consideration surveys of the public lands which have been made since that Forest was proclaimed in 1921. An executive order redescribing the boundaries of this Forest will probably be issued at an early date.

- - - - - - - -

Dr. Ralph M. Nelson, Forest Pathologist of the Bureau of Plant Industry, stationed at the Appalachian Forest Experiment Station, is being transferred to the Station's personnel. In his new position, he will be engaged on studies of forest fire damage, taking the place of Dr. C. R. Hursh, who has been assigned to the erosion-streamflow investigations of the Station.

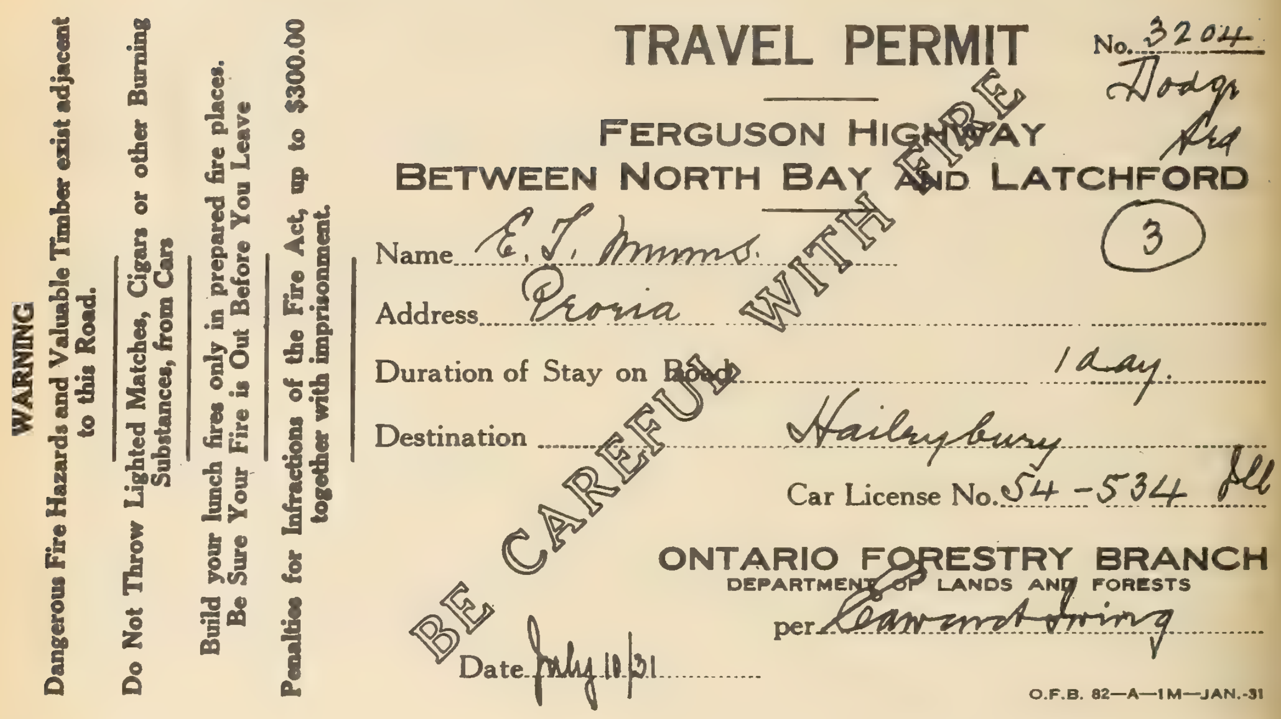
- - - - - - - -

Burt P. Kirkland has been transferred to the Washington Office, Division of Forest Economics, from the Pacific Northwest Station. At that Station he has been working in conjunction with A. J. F. Brandstrom on the investigation of the applicability of principles of selective logging to the Douglas fir type, in which problem valuable pioneer work had been done particularly by these men while still on the faculty of the University of Washington Forest School. This selective logging in Douglas fir study is one phase of the larger project initiated last fiscal year under the McSweeney-McNary Act, Section 10, for a study of practical measures for speeding up private forestry practice and stopping forest devastation. From Washington Mr. Kirkland will be in a position to consider the project as a whole in its broader aspects and with reference to particular phases which should be undertaken in other regions or nationally.

- - - - - - - -

1st. Fisherman: "Did you do any trout fishing last week-end?"
2nd. Fisherman: "Sure did."
1st. Fisherman: "Fished with flies, I reckon."
2nd. Fisherman: "Fish with flies! Gadzooks, yes; We fished with them, camped with them, dined with them and slept with them." - Clipped.

HOW THEY DO IT IN CANADA



WARNING

Dangerous Fire Hazards and Valuable Timber exist adjacent to this Road.

Do Not Throw Lighted Matches, Cigars or other Burning Substances, from Cars

Build your lunch fires only in prepared fire places.
Be Sure Your Fire is Out Before You Leave

Penalties for Infractions of the Fire Act, up to $300.00 together with imprisonment.

TRAVEL PERMIT

No. 3204

Dodge
Sed

FERGUSON HIGHWAY
BETWEEN NORTH BAY AND LATCHFORD

③

Name E. T. Mmms.

Address Peoria

Duration of Stay on Road 1 day.

Destination Haileybury

Car License No. 54-534 Ill

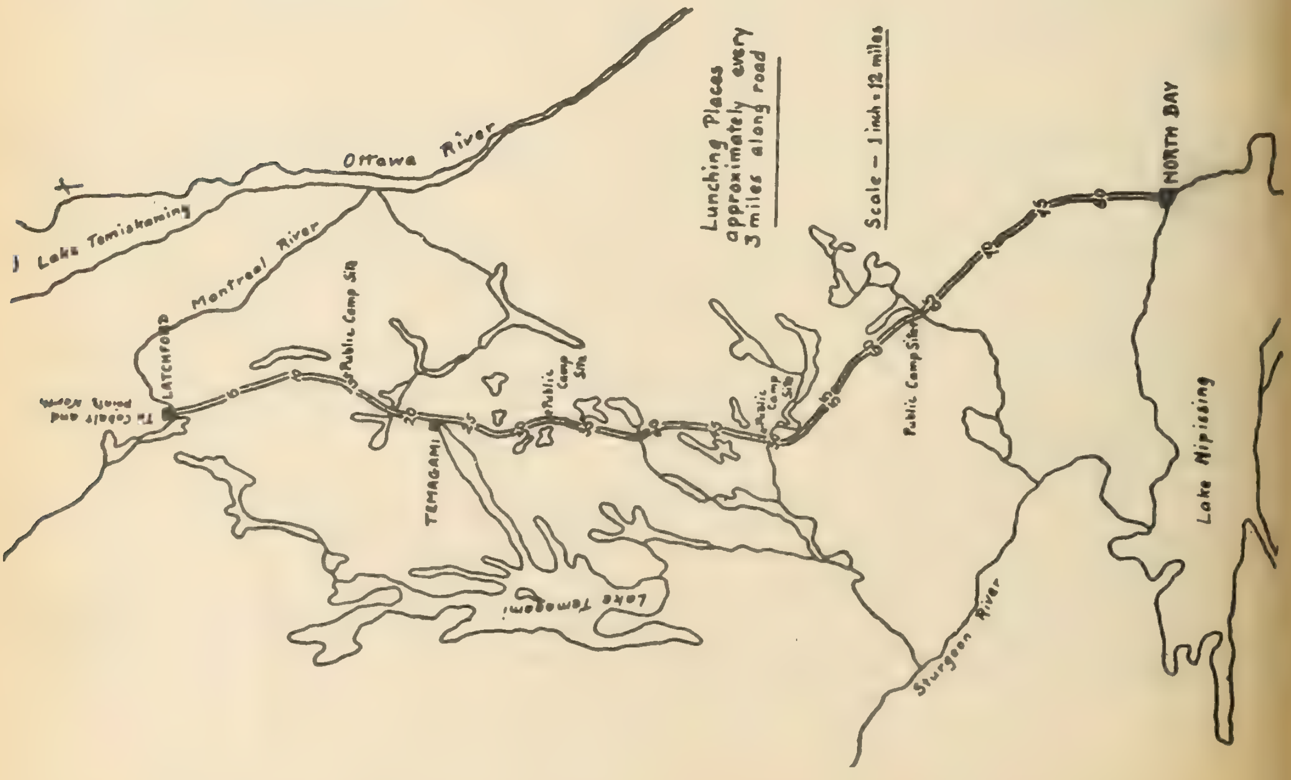
BE CAREFUL WITH FIRE

ONTARIO FORESTRY BRANCH
DEPARTMENT OF LANDS AND FORESTS

per Leonard Irving

Date July 10/31

O.F.B. 82—A—1M—JAN.-31


Ottawa River
Lake Temiskaming
Montreal River
LATCHFORD
To Cobalt and Points North
Public Camp Site
Public Camp Site
Public Camp Site
Public Camp Site
TEMAGAMI
Lake Temagami
Lunching Places approximately every 3 miles along road
Scale – 1 inch = 12 miles
NORTH BAY
Lake Nipissing
Sturgeon River
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 35 Washington, D. C. August 31, 1931

STARTING A NEW FOREST IN THE VIRGIN ISLANDS

By R. M. Evans, R. 7

Mr. Herbert D. Brown of the Bureau of Efficiency, who headed a commission appointed to find out what is the matter with the Virgin Islands, decided that these West Indian possessions of Uncle's need some more trees, so he asked the Forest Service to do something about it and had the funds transferred from the Navy appropriation to pay the bill. Region 7 fell heir to the job, since St. Thomas is only forty miles east of Porto Rico. William R. Barbour reached the Islands in January to head up this project, and the next few months were spent in getting the preliminaries out of the way. The first actual planting was done in June and if any planting men think they are up against tough jobs let them read the following extract from a letter by E. V. Roberts, who is now in charge of the project.

"Planting conditions in the bush land are most unfavorable. The area is covered with a dense growth of various shrubs and low trees averaging 6 - 10 feet in height and so covered with thorns that it is impossible for a man to force his way thru without considerable damage to his clothes and person. It is necessary to use machetes to cut trails thru this bush in order to provide clearings for the seedlings and access for the men carrying them. The grade on the planting site is very steep with occasional low cliffs.

"The crew organization consisted of 14 laborers, a foreman and 2 waterboys. I was fortunate at first in securing an American as foreman who had had some experience in the Forest Service in Idaho. The work proved too strenuous for him, however, and he was forced to return to the States to recuperate. An ex-marine sergeant lasted one-half day and quit. Finally, I resorted to a native foreman and secured the services of a young Frenchman (Cha-cha) who has been carrying the work on the last few weeks. He is being paid $1.50 per day and the laborers 80¢ per day (Danish West Indies currency).

"The division of work within the crew varies with the density of the brush. Normally, nine men cut trails with the machetes and the remaining five dig the holes following them. When a block of land is ready for planting or when moisture conditions are particularly favorable the whole crew plants.

"Transportation of trees from the plant shed to the planting site has been a difficult problem. The potted seedlings form a bulky, heavy burden that is difficult to transport up the steep mountainside along the narrow trails. At first we tried individual boxes and baskets to be carried on the men's heads (the prevailing method of carrying burdens here) but this proved impossible due to the rough terrain and the overhanging branches. Nor did it work out well to carry these same boxes by handles. Later we tried swinging two boxes carrying 72 plants each onto pack burros but they could not climb the trails. The system we are now using consists of two men carrying boxes holding 72 plants in carriers with handles at each end. As most of the planting area is at the top of the mountain the boxes are taken by truck to a trail near the top and distributed from there with the hand carriers. The two men go down the cut trails with the carrier leaving a seedling at each hole. After emptying the box they return up the trail planting the seedlings they have just left. Such work is slow and costly but seems to be the best method yet developed for the purpose.

"Precipitation for the months of May and June was the heaviest for many years. The rains had the disadvantage of keeping the mountainside so slippery that work was delayed, and of encouraging the growth of grass and bush in the planted trails. It will be necessary by the end of this month to go back along the trails and trim back this growth in order to liberate the seedlings. At least one and possibly two or more additional cleanings will be necessary before the trees are of sufficient size to take care of themselves.

"Trees planted per man day--18!"

INTERESTING COMPARISON OF STATE LAND POLICIES

Our Western States have received large grants of public land for school, institutional, and other purposes. Some of the States have liquidated these grants as rapidly as conditions would permit by passing them to private ownership either through sale of the original grant or through the sale of lieu selections based thereon. Other States have reasonably well conserved their grants and now possess valuable income-producing properties. A current example of such divergence in State-land policy is afforded by the sister States of Arizona and New Mexico.

Both were admitted to statehood on the same date, namely, June 20, 1910. In each case the enabling act made additional grants of land for school purposes but provided that where such lands were situated within National Forests title would not pass to the States unless or until the lands were eliminated from the National Forests. It was, however, provided that so long as the lands remained under national-forest administration the States should receive a proportionate part of the total national-forest receipts corresponding to the proportion of State lands in relation to the entire area of national-forest lands within the State. As required by law, the Branch of Lands has just completed its annual survey of State holdings as a basis for the distribution of the 1931 receipts.

In 1910 the total area of State lands within the National Forests in Arizona was 1,460,000 acres. At the close of the last fiscal year it was still 1,128,860 acres. Arizona early adopted the policy of retaining its holdings within the National Forests and has used them as a basis for lieu selections to only a limited degree and mainly in instances where the listing of the base lands under the Act of June 11, 1906, or other applicable laws, appeared to be in the public interests. As a result its quota of 1931 receipts amounts to $30,356.89, and its total returns from that source since 1910 aggregate $756,047.11.

New Mexico, on the other hand, has rather extensively used its lands within the National Forests as a basis for lieu selections. In 1910 the area of land within the National Forests was 704,400 acres. By June 30, 1931, this had been reduced to 34,590 acres. The State's share of the 1931 receipts, therefore, was only $525.25 and the total share since 1910 has been only $136,825.22.

These figures, of course, are no criteria of the relative merits of the respective State land policies. New Mexico has derived large returns from oil and gas royalties from

"BOX SCORE"

REGIONAL FIRE QUOTAS AND 1931 RECORD TO AUGUST 20, 1931

Region	Area burned over N.F. & Private inside .1 of 1%: 1925-29 Average	Quota Prorated	1931 to date	Per Cent Class C 1925-29 Average	1931 to date	No. of extra period B. C. fires 1931 to date	No. of M. C. fires 1925-29 Average	1931 to date
1	165,028	45,521	89,000	9.2	8	46	365	459
2	9,804	7,335	18,000	9.7	10	11	134	126
3	10,903	9,588	3,947	6.1	5	14	227	179
4	13,773	6,137	72,455	8.3	21	48	206	365
5	187,012	54,326	80,056	19.3	17	57	924	740
6	125,333	33,731	58,000	10.4	14	47	704	775
7	74,951	20,000	26,776	55.1	50	4	810	776
8	1,124	1,499	2	10.4	0	0	36	6
9	12,945	5,132	35,932	35.6	44	10	47	174
Total	600,873	183,269	584,168	17.0	13	237	3,453	3,600

CALENDAR YEAR F.F. EXPENDITURES

Expenditures 1930	Expenditures Average Annual 1925-1929	Region	Total F.F. C.Y. 1931 to date	For Emergency Gds. 1931 C.Y. to date	No. of F.F. Guards on duty
$ 327,460	$ 679,400	1	$1,099,197	$ 75,000	674
32,925	9,457(a)	2	49,156	993	4
15,386	36,673	3	17,089	653	0
37,666	30,815	4	234,493	11,366	104
235,183	459,572	5	262,550	8,792	24
407,668	495,238	6	321,130	20,000	114
191,861	54,673	7	47,025	3,690	0
847	3,645	8	23	0	0
75,947	37,675(a)	9	43,561	1,164	0
$1,324,943	$1,807,148		$2,074,224	$121,658	920

(a) 1929 only. Included in Region 2 for 1925 to 1928, inclusive.

State lands and through the sale or rental of lands for grazing purposes, which may, perhaps, aggregate more than the receipts derived by Arizona under the provisions of the enabling act. The results of the 1931 survey are interesting merely as an illustration of the fact that different States follow widely different policies in the administration of their land holdings. -
L. F. Kneipp

BELIEVE IT OR NOT

By Robert K. Winters, Southern For. Exp. Sta.

While the Southern Forest Experiment Station is willing to accept credit for phenomenal growth of any species found within its territory, Munns, in his note in the Service Bulletin of May 18, 1931, concerning our prize section of _Quercus rubra leucophylla_, took a crack at the forestry profession below the belt. If the truth about the tree that produced that section were known, it grew near the apex of a wedge of second-growth timber that seeded in on an old field, and probably received light from the top, on at least two and one-half sides, and, in wet weather, from beneath. (It sometimes gets wet in the bottomlands and light is reflected from standing water. Page the physiologists to learn if photosynthesis is affected thereby.) With such orcharding any old mongrel species ought to grow a good-sized ring--or two--each year.

Here is an example, however, that is absolutely orthodox and on the level. This time it is _Quercus phellos_, and "fellas," how she can grow! Catch these vital statistics on the fly:

D.B.H. 43 inches
Height, 110 feet above ground
Age, 72 years on a 19-inch stump
Clear length, 22 feet
Scale of butt log, 961 board feet (Doyle Rule). (Only one log utilized).

This tree was growing on land cleared for agriculture about 73 to 75 years ago. The Civil War caused abandonment of the area, possibly before a crop had been produced. The Fisher Lumber Corporation of "Body by Fisher" fame is now logging the practically even-aged second-growth stand that has grown since the Civil War period.

TREE DIAMETER TAPES

By John B. Cuno, Forest Products Laboratory

Will not someone who has occasion to throw the Forest Service diameter tape around the breast high circumference of trees tell us that they, too, notice the inconvenience and tendency to inaccuracy from reading the figures upside down? Undoubtedly the forester who prepared the specifications for the master plates used by the Lufkin Rule Company was a big-timber man in the habit of measuring trees larger than 24 inches through, whose method of measuring diameters was to sink the hook in the bark, walk around the tree counter-clockwise, and find when back to the starting point the figures right side up. When using the same tape on small trees where the hook is thrown with the right hand around the tree, caught with the left, and pulled taut, one has to stand on his head to read the figures. So, we are all for an additional master plate in order that Lufkin can reverse the figures for tapes to be used in small timber.

A few years ago a member of the Appalachian Forest Experiment Station adapted the principle of dressmakers' or housewives' snap tapes to measuring tree diameters. Lufkin made some and they have given splendid results, but because of thinness and narrowness of the steel they tended to break rather easily. Recently we had occasion to design one of steel .005 inch thick, .371 inch wide, and 6 feet long in a thin brass-nickel case 1.9 inches across and only 2-1/2 ounces in weight. These tapes are proving very satisfactory also, except that without an extra master plate Lufkin was unable to reverse the figures. Snapping saves time and this length is easily cleaned and oiled. Care must be taken to guide the tape back to the case so the brass case is not cut.

A hook is not necessary on the snap tape as it may catch one in the seat of the trousers or in the calf of the leg on the return snap, but metal of sufficient weight on the end is essential to facilitate throwing the tape. Lufkin will take care of that if requested.

The tape described is a handy little rig and fits nicely into a shirt pocket without feeling like a lump of lead, as does the larger tape.

CONCERNING NATIONAL FOREST AREAS

In glancing over the Area Table prepared for the fiscal year 1931, we find that on June 30 there were 151 National Forests with a total gross area of 185,251,582 acres, or 1,275,652 acres more than the gross for 1930, and a total net area of 160,787,687 acres, an increase of 696,870 acres over the preceding year's figure. An addition to the Boise accounts for approximately 100,000 acres of this gain in net area, and the proclaiming of the Hiawatha, Marquette, and Ottawa National Forests in Michigan added more than 100,000 acres.

There is a steady increase in net acreage within Regions 7 and 9 caused by the acquisition of land under the Weeks and Clarke-McNary laws. The total land acquired within the proclaimed boundaries under these laws during the fiscal year ending June 30, 1931, was 594,091 acres. In 1924 the total gross area of the National Forests in Region 7 was 9,809,609 acres, of which 35 per cent was net. In 1931 this proportion had increased to 50 per cent. The present gross area in Region 9 is 3,329,321 acres, of which 47 per cent is National Forest land. The Alaska Region has the largest percentage of net area as compared with the gross. The gross area for that Region is 21,397,065 acres, over 99 per cent of which is National Forest land.

The end of the fiscal year 1931 found the Bitterroot National Forest extending from Montana into Idaho, as a result of a transfer of land from the Nezperce.

For the first time our Table lists the Homochitto Purchase Unit in Mississippi, the Green Mountain in Vermont, and the Kiamichi in Oklahoma. Within these three Units land has been approved for purchase by the National Forest Reservation Commission and within the Kiamichi there is some land already purchased. This latter Purchase Unit is soon to be proclaimed as part of the Ouachita National Forest, which will result in the extension of the Ouachita across the Arkansas boundary into Oklahoma. Oklahoma will then have two National Forests, bearing the euphonious names of Ouachita and Wichita, one in Region 7, the other in Region 2. - F. E. Sizer

OLD INSTRUMENTS, APPARATUS, AND MACHINES

By George P. Lang, Medicine Bow

Excerpts from an article appearing in the March-April 1931 issue of the Military Engineer:

"When one walks through the halls of the British Museum in London, the astronomical observatory at Greenwich, and the Ordnance Survey at Southampton, England, he is impressed by the exhibits of old surveying and navigational instruments. Many of these instruments date back to early times and are of the greatest interest and value from an historical standpoint. There is nothing that ties the past to the present and the future so well as the implements and machines with which man has gone forward in his civilization"

"In the March, 1930, number of The Instrument World, published in London, England, appears an excellent article entitled 'A Plea for the Preservation of Old Instruments' by Thomas H. Court. The article in question opens with the following statement: 'When the part that has been played by scientific instruments in the evolution of culture comes to be realized, those pieces of apparatus which have been happily preserved throughout the centuries will acquire a value altogether different from that they are today accorded. This is a well-reasoned plea for the institution of efforts to conserve old scientific instruments and to place them where their existence and significance can be appreciated by those to whom the knowledge must prove of high value'"

This brings to mind the desirability of our initiating the preservation of obsolete equipage i.e. the original one and one half inch high "US" marking axe, out of use many years now; the large badge often mentioned in writings of "old timers" eligible to the Quarter Century Club; perhaps marking nails and possibly the old style surveyor's 66 foot chain which have seldom been used of late years. No doubt other items could be suggested which would be a real curiosity to the Foresters on the job when our present seedlings have ripened into maturity.

As a starter let's concentrate and label selected articles that have served their purpose, adding full description of their use.

FROM THE R-1 SECTOR

August 16.

"Fire outside, six mile front, vicinity Ione and Tiger blew across Pend Oreille River to Forest this evening in two places one spot 20 acres corralled. Other with 4 mile perimeter, being trenched. Expect control by 10 a.m. tomorrow. Necessary to control fire west side river to protect forest. Organizing tonight. Ione in imminent danger. Train standing by to move citizens if needed. Fire 12-1/2 mile perimeter thirty-six miles by trail above Avery at Midget Creek manned but no recent word. Fire 2 mile perimeter twenty acres Fish Hook Creek. Expect control tomorrow morning. Fire at Superior on Lolo starting this morning 24 mile perimeter by night, with 4-1/2 mile trenched. Expect certain control tonight. Three fires Flathead Indian Reservation draining resources but all but one controlled this afternoon. Numerous other fires controlled today. Fire Nezperce 8 miles perimeter controlled today. Another threatening Nezperce south of Harpster from outside. All other big fires held within lines."

- - - - - -

August 19.

"During past twenty four hours about 100 lightning fires have occurred. Result four sees; Lolo one, Clear Creek Selway two, Darby Bitterroot one controlled. All manned. Ione fires rounded up. Total approximately fifteen miles trench. St. Joe Midget Creek 12 1/2 miles trenched by morning. Fish Hook trenched unknown length by morning. Reservation fire Camas Hot Springs still spreading. Expect some trouble Newsome Creek Nezperce. Five incendiary fires about White Bird all controlled."

- - - - - -

August 20.

"Lightning past three days set around 180 fires. Drifting and local smoke completely upsetting detection service. Fires developing see stage before discovery. From best information obtainable not more than five fires uncontrolled or that will not be controlled by noon. Indian reservation fire still boiling near Camas Hot Springs. One 50 to 60 acres Beaver Ridge Powell District. One French Creek Area unknown clearwater. One sheep creek Nezperce Salmon Drainage. One Whitefish Mountain Blackfeet. None bad on National Forests. Situation extremely hazardous. Yesterday constructed three mile trench 5 A.M. to noon cedar bottom type Clear Creek Selway. Plows are becoming in great demand."

YE EDITOR DISCOVERS

Certificates of eligibles issued by the Civil Service Commission under date of July 3 for the position of Junior Forester and Junior Range Examiner were returned to the Commission August 19, appointments having been made as follows:

	R-1	R-5	R-6	R-7	R-9	Exp. Stas.	Total Forest Service	Indian Service	Bur. Plant Ind.	TOTAL
Junior Forester	2	2	5	3	1	17	30	1	3	34
Junior Range Examiner	-	1	3	-	-	3	7	6	-	13
Totals	2	3	8	3	1	20	37	7	3	47

Three Bureaus besides the Forest Service were authorized to make appointments from the certificates; namely, Plant Industry and Biological Survey of the Agricultural Department, and the Indian Service of the Interior Department. All of the authorized agencies made selections with the exception of the Biological Survey.

- - - - - -

The National Carbon Company of Cleveland, Ohio, represented by Mr. C. A. Gillingham, is giving active attention to development of improved lights for night work on forest fires. Anyone who has had special experience or believes he has creative ideas of value on the subject might do well to communicate with Mr. Gillingham. Lighting equipment for night fire fighting is certainly far from satisfactory, and an inclination on the part of any competent concern to do some real experimental and development work should be encouraged.

- - - - - -

Deeper planting of long-rooted stock is suggested by the California Forest Experiment Station in reforestation work in Southern California. It is found that shallow planting in that climate leads to large losses of young trees because the rapid growth of weeds exhausts the soil moisture before the seedling tree roots can get established. In northern and more humid areas shallower planting and root pruning are practiced, and such planting is cheaper.

- - - - - -

Commerce and Finance for August 12 says: "A friend in the Middle West who is enough of a philosopher to take a long distance view in matters financial writes us: 'I am happy to advise you that my tree planting experiment out in Indiana continues to have every prospect of ultimate success. I have now planted about 225,000 trees in two years, and under the Indiana law it is all exempt from taxation except on the valuation of one dollar per acre. I expect to put in about two million trees and then leave them in trust for my grandchildren. The cost of doing this will not be in excess of $30,000 and in about seventy-five years they will be worth approximately two to four million dollars, as I am planting only trees that will have cabinet wood value, such as black walnut, poplar, spruce, and wild cherry. I will get my reward out of this in the pleasure that I will have in seeing my trees grow and in the hunting and fishing I will have at my lodge.'"

Clearing of title to the 15 acres on Government Island at Alameda, California, which is to be used jointly by the Coast Guard, Bureau of Public Roads, and the Forest Service has been an endless series of delays. An appropriation of $800,000 was made available before Congress adjourned last spring for the construction of buildings on this tract, but the first shovelful of dirt has yet to be moved. The title has, however, finally been approved by the Attorney General. Formalities involving an Executive Order will require about another week, but by the time this issue of the Bulletin reaches our readers it is probable that the matter will have been settled so that construction work may begin at an early date.

Mr. Charles C. Jones, who retired from active service as senior photographer in the Photographic Section of the Washington office on August 31, 1930, (Service Bulletin Sept. 8, 1930) passed away at his home in Washington, D. C. on August 12. Always very much interested in photographic work, Mr. Jones, until the last few months, continued to visit the laboratory two or three times a week.

EXCERPTS FROM "A SHORT ACCOUNT OF THE HISTORY OF THE FORESTRY OF THE JOKIOINEN ESTATE," BY O. TÄHTINEN. PUBLISHED BY THE SOCIETY OF FORESTRY IN FINLAND.

Although feudalism was never so strong in Northern as in Central Europe, it was well-known in Finland. Jokioinen is one of the largest estates held on a feudal tenure.

In 1562 King Erik XIV granted a large area called Jokioinen (Jokis) in the Southwestern part of Finland (belonging to the present provinces of Turku and Häme) to Klas Kristersson Horn in fee. The ownership has changed many times since the original grant and has long ceased to be held under feudal tenure. In 1872 it was acquired by a Joint Stock Company, the Jockis Company, which sold it in 1875 to the Jokkis Gods Company and in 1918 it was bought by the Government. ***

The oldest form of agriculture in Finland was the raising of crops on burnt-over forest lands. After a few crops the land was left in order to be naturally afforested and a new area was burned for crop. After a few decades the burning came to the same spot again.

Up to the middle of the 18th century almost every farmer in Jokioinen still practiced this method of agriculture. The practice gradually fell into disuse as the marketable value of timber increased and made the burning unprofitable to the farmer. This kind of agriculture had a great influence upon the forests and forestry. ***

In order to solve the complicated questions of ownership and usage of the Jokioinen lands, the Government bought the whole Estate in 1918 for 33.2 million Finnish marks.

In 1918 the estate comprised 32,000 hectares, and contained 698 agricultural holdings with a population of 7,960. Since then these holdings have been sold to their tenants, and, in addition, 287 new farms have been formed. The farmers paid an average price of about 1,000 Finnish marks per hectare for their farms, including buildings and forests. The State, however, has retained under its own management the main buildings and a part of the agricultural and forest lands.

This reform of land ownership in Jokioinen is closely connected with the general settlement policy of this country.

The forest area belonging to the State comprises about 7,000 hectares, and a trained forester is in charge. Unlike the great State forests in Finland which are under the Board of Forestry, the whole state-owned part of Jokioinen is under the Board of Agriculture.

The forestry on the privately owned farms is now on the same lines as ordinary farm forestry in Finland. The farms in question are on an average small. The forest area they have is meant to suffice only for the home consumption of wood.

A TRIBUTE

A place difficult to fill is that left by Philip Herrick Dater, regional engineer of the United States Forest Service, word of whose passing in San Francisco while attending a conference of regional engineers caused a deal of regret to a wide circle of friends here. That he was known as Phil to his friends of the city hall, where from 1914 to 1917 he served as city engineer, to his associates in the Government service, fellow-members of the City Club, the University Club, and at gatherings of engineers and professional men, is evidence of his charm and popularity, of an affable, agreeable nature that found great pleasure in lending a hand in whatever engineering project needed his assistance, and that was always interested in any matter pertaining to the public welfare. Mr. Dater is said to have had the happy faculty of being able to please both sides of almost any argument which arose in connection with his work as representative of the Federal Power Commission.

He was bown in Schaghticoke, N. Y. (1873), and graduated from Williams College and the Massachusetts Institute of Technology. He came to Portland in 1913. Modest, effective but unassuming, not seeking prominence, yet faithful to high ideals, Mr. Dater symbolized that high type of American citizenship so valuable in community life. The quiet and unassuming are not often eulogized. But their imprint in the world is significant. -

From "The Spectator," Portland, Ore.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV No. 36 Washington, D. C. September 8, 1931

THE NEW FOREST PRODUCTS LABORATORY BUILDING

Providing for the construction of the largest and most complete establishment in the world devoted to research on wood, contract has been awarded by authorities of the U. S. Department of Agriculture, Washington, for a new fireproof building for the Forest Products Laboratory, to be completed in one year. This contract is the principal award under a $900,000 Congressional appropriation to provide the Laboratory with adequate quarters and equipment.

In its six stories, with total floor space of 175,000 square feet, the building will contain modern technical and scientific facilities for testing and investigating wood and other forest products in manifold uses and transformations, from logs, poles, and lumber to pulp, paper, and turpentine.

Dry Kiln Equipment

A large group of dry kilns equipped for close control of temperature, humidity, and air circulation will help to solve the problems of seasoning many species and types of wood. A cold storage chamber will be provided in which green logs and timber can be kept in unchanged condition for experimental work at any time.

Timber and Pulping Research

Machines for testing timbers and framework up to a breaking load of 1,000,000 pounds will be served by cranes in a testing gallery accommodating pieces and panels as large as 30 feet high and 100 feet long. Tests of boxes and shipping crates can be carried on at any degree of dryness or dampness that would be met in service by storing and testing the containers in a special moisture-control room served by movable machinery.

The pulp and paper research laboratory, occupying six floors at one end of the building, will include grinder equipment, a digester tower 40 feet square, beating and refining apparatus, and an experimental paper machine with all moving parts under precision control. With this equipment the study of various American woods as pulp and paper raw material will be continued, along lines that have already broadened the pulpwood market and pointed the way to improved chemical pulping.

X-ray Room for Wood

Among unusual features of the building will be an ultraviolet ray chamber, where wood can be sterilized for mycological studies and where paints and other materials can be exposed for test, an X-ray room providing for the examination of the minute structure and growth characteristics of wood, a microphotographic studio, and a stone table and shaft for ultracentrifuge apparatus to determine molecular sizes of cellulose and other wood components.

Modern Service Facilities

To serve this establishment, extensive equipment will be required, including a railway siding, a power plant of 630 boiler horsepower, and a number of service elevators, hoists, and monorails. A forced ventilation system will be used for chemical hoods, pulp digesters, and other units as required.

A sawmill, planers, and complete woodworking shop will prepare test material in all sizes, shapes, and forms of construction needed, while wood for experimental pumping and paper making will be prepared in a room equipped for barking, chipping, and grinding.

Building Aids Increased Work

Success in the economic restoration of idle forest and submarginal agricultural lands demands the development of new uses for wood to replace those captured by other materials, the modernizing of existing wood uses, and the adaptation of wood to complex and changing requirements.

The Laboratory will increasingly contribute to these ends through the improved facilities for physical, mechanical, chemical, and biological research on wood and other forest products which the new building will afford. The work carried on for several years past by the staff of nearly 200 has taxed available facilities, and since Congress has already authorized the doubling of the annual operating appropriation, the need for new and larger quarters is imperative.

Cooperation with University

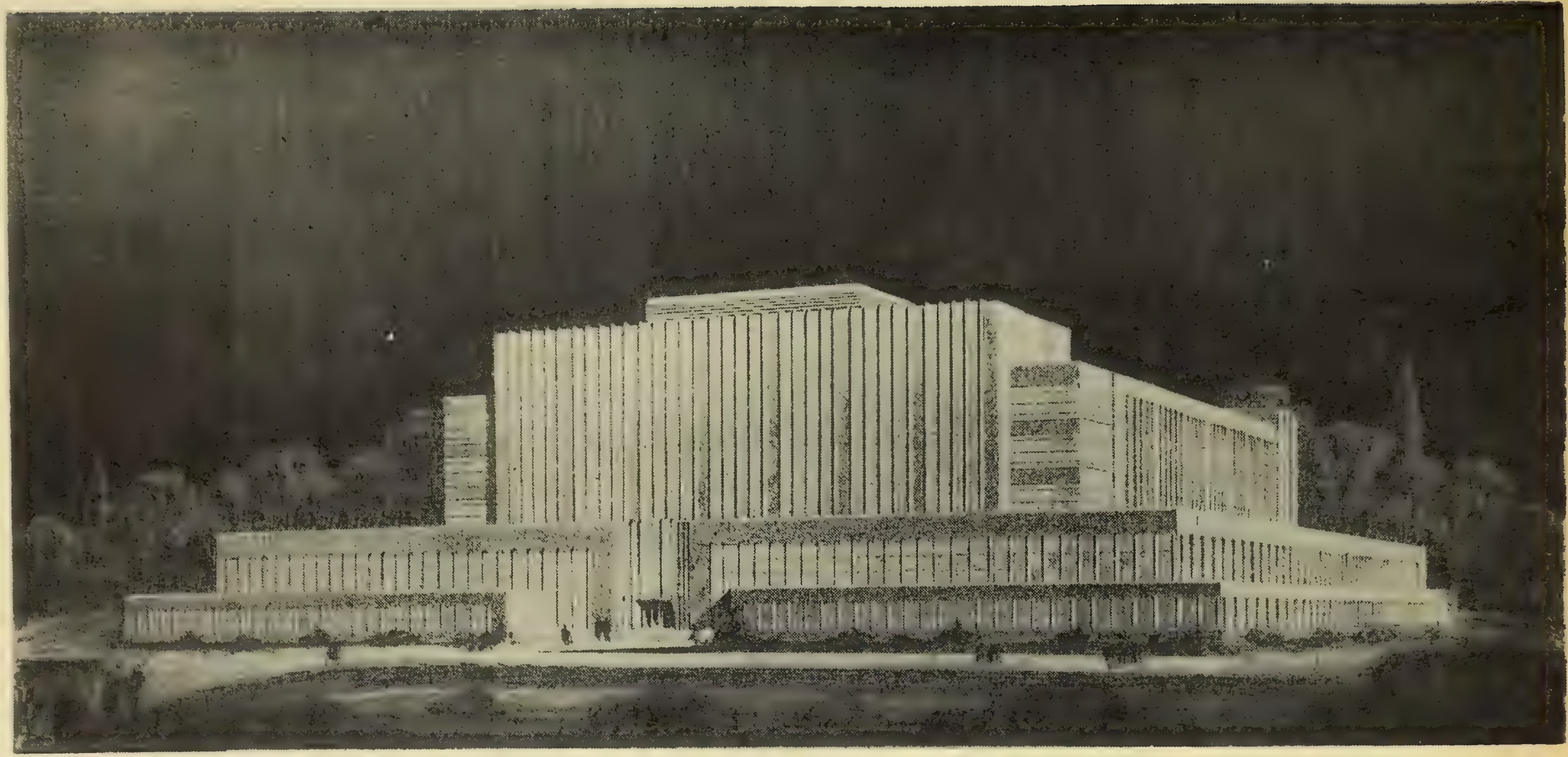
Since the Forest Products Laboratory was opened by the U. S. Department of Agriculture, in 1910, it has occupied buildings owned by the University of Wisconsin. This assistance is based on the original cooperative arrangement whereby the Laboratory is available to the university faculty and advanced students for research, and its staff gives lectures in the university on wood chemistry and technology and other subjects related to forest utilization.

The university board of regents has aided the new building project by donating a choice site of 10 acres overlooking Lake Mendota and the university campus.

Construction Features

In general plan the new building will be U-shaped, about 275 feet in length and over-all breadth. It is of modern design, emphasing "stepped-back" construction, vertical lines, and large areas of glass in the external walls. By terms of the Congressional authorization act, the building will be of fireproof construction throughout.

C. B. Fritz & Company of Madison, Wis., were the successful bidders. Holabird and Root, Chicago, are the architects. Davidson and Constable, Stamford, Conn., assisted in the landscaping design.



The modern spirit which dominates the design has discarded outworn symbolism, according to the architects, who gave the following comments on their plans:

"The architectual conception of the building is essentially modern in its effort to achieve, through the massing of the required utilization elements of the structure and through the treatment of the preponderant surfaces of glass, a classical and balanced whole suitable to the dominating site. This is an attempt at the true classical feeling through the natural dictates of the problem, rather than through the use of obsolete forms and expensive decorative elements. If this effort is successful, it will have been achieved in a logical manner and with a minimum of expense." - Forest Products Laboratory

DATA ON THE FIRE SITUATION

By Roy Headley, Washington

Figures compiled in the Washington Office show that 384,000 acres within National Forest boundaries have been burned during the present calendar year to August 20. This is against an acreage loss of 205,000 acres in the entire calander year 1930. The average loss for the five year period ending 1930 has been 574,000 acres. There is, therefore, a fighting chance that notwithstanding the extraordinarily adverse fire weather conditions of 1931 a better than average record may be made in protection of the National Forests.

The fact that the fire season of 1931 opened at so unusually early a date leads Forest officers to hope that really helpful rains may occur reasonably early in the fall.

A fire which was still running on August 25 on the Coeur d'Alene National Forest has been "spotting" ahead badly. Innumerable sparks and brands have ignited new fires from two to three miles ahead of the main fire. While such conditions continue human agencies are almost helpless. The only remedy is to use every possible means of catching fires while small, at only a fraction of an acre in size, and before the heat and self-generated power of the fire brings about conditions which lead to "spotting" and other disastrous characteristics of a large runaway fire.

One fire near Thompson Falls, Montana, jumped the Clarks Fork River 15 minutes after its start, and raced up both sides of a drainage toward the crest of a nearby mountain range.

Five incendiary fires set in the Tally Lake Region on the Blackfeet National Forest ran together into a fifteen hundred acre fire within four hours on the afternoon of August 25.

Forest officers who must be depended upon for planning and directing the work of thousands of men who are used in fighting these fires as they occur here and there in the National Forests of Idaho and Montana are wearing out under the strain of the long fights they have had to conduct. The Regional Forester has called on Regional Forester Buck at Portland for aid, and although conditions are far from comfortable in the Oregon and Washington National Forests, it has been possible to shift a few expert leaders of fire fighting operations to help in North Idaho and Western Montana.

Extreme Fire Danger in Idaho, Eastern Washington and Montana

Detailed information as to the extreme forest fire emergency through which Eastern Washington, Idaho, and Montana are passing is beginning to reach the Washington Office.

Adverse fire weather conditions are duplicated in but few years of the history of this Region since organized forest protection has been undertaken.

On August 25, at Spokane, Washington, 57 days had passed without a measurable amount of rain. Since January 1, the precipitation totals 5.44 inches, where the normal rainfall for the period is 9.93 inches at this point. In only one other year has this dry record been exceeded in the history of the Weather Bureau at this point. That was in 1929 when the rainfall for the period was 4.92 inches.

On August 17, 24 consecutive days had passed with temperatures of 90 or over. The 50 year record for such days was in 1925 when there were 29 of them.

Relative atmospheric humidity has also been persistently low and winds have been unusually troublesome.

These conditions result in easy ignition of fires by lightning or human carelessness and rapid spread of fires that are caught promptly.

The suprising thing is that with conditions so acute so few fires have escaped on the National Forests and resulted in serious damage.

Occasionally a fire gives the Forest forces no chance. One very destructive fire starting outside the National Forest near Newport, Washington, at 11 o'clock one day, spread rapidly from its very beginning until at 7 p.m. the same day its first run was spent. Thousands of productive acres of white pine country had been covered in the National Forest and the construction of 70 miles of fire line was necessary to prevent another run of the fire when the wind might arise. During the big run of this fire burning brands were thrown fully six miles ahead of the main fire starting new "spot" fires.

"Spot" fires have been unusually troublesome because of the extreme dryness of debris in the woods and the ease with which the slightest spark thrown ahead of a main fire will ignite inflammable material in which it falls. The result is that fire fighting forces not only have to "corral" a main fire with lines and trenches cut through the rough timbered country; they must search unceasingly for smouldering spot fires some distance outside the main fire, some of which never reveal themselves until the humidity takes another extreme drop and the next high wind begins to blow.

August 19 and 20 are memorable days in fire history of the far northwest; on these dates in 1910 the Forest Service was straining every resource then available to hold in check the multiplying fires. A sudden windstorm of hurricane proportions precipitated a National disaster. From the Pacific Coast Region eastward to Central Montana the Forests of the Northwest seemed suddenly to burst into flames. The scattered fires were driven together and lashed into fury until they forced to shelter (where shelter could be found) the scattered bands of fire fighters. Eighty-five lives were lost counting only men then in the employ of the Forest Service. In this historic year in the annals of the National Forests a total of 4,947,000 acres was burned inside National Forest boundaries - the largest acreage ever burned in one season on the National Forests.

The same dates of August 19 and 20 also witnessed catastrophic losses in 1919, which was another "bad" fire year in the Northwest.

Forest officers who have been through these previous terrible experiences dread the possibility of another hurricane with the woods as dry as they are this season in the Northwest. Any fire which has not been completely extinguished is likely to be torn from the control of any number of men when winds of such hurricane violence occur.

So far as reports to date received by the Washington Office indicate only 6 lives have been lost in fire fighting this year. This number includes only men employed by the Forest Service. No complete record is available of deaths due to Forest fires outside the National Forests.

In 1929, sixteen employees of the Forest Service lost their lives while fighting fire. Some were burned but a more common cause of death is due to falling snags and trees which are brought crashing to the ground in large numbers by the usual Forest fire. Despite all precautions, these falling trees occasionally catch and crush a man.

Airplanes are being used more than ever before for transportation of fire fighters. On August 19 planes were leaving Missoula, Montana, every three hours, carrying men and equipment to Chamberlain Meadows, on the Idaho National Forest, whence they tramped 20 miles southeast to a fire which had gotten away from men on the ground. Other fire fighters were brought to the same point by plane from McCall, Idaho. In a number of instances picked men were shifted from one to three hundred miles by plane to some point at which their expert services were needed because of some especially acute emergency.

Yellow Jackets and Accidental Forest Fires

Strange and unusual circumstances are often responsible for forest fires. An instance of this and some of the hazards attending work in a mountainous country are illustrated in a report from the Supervisor of the Trinity National Forest. It relates that on July 28, 1931, four mules were killed, a man seriously injured and a fire started when one of the string of four animals in charge of an employee of an electric power company got mixed up in a yellow jacket's nest, became entangled in a guy wire and pulled a high tention power line down on top of the string of pack animals.

The accident happened in an isolated area and it was nearly three hours before the injured man was found, lying partly under two dead mules, the high tension wire fused to the horn of his saddle.

Another employee of the hydro electric power company was the first to arrive on the scene and was followed shortly by a lookout fireman from a nearby National Forest fire control station. By one of the queer quirks of fate, the spot where the men and animals fell happened to be clear enough of inflammable material so that the fire started by the falling power line did not reach them.

The injured man was packed out to the nearest road and taken to a hospital where, according to the latest reports, he is on the road to recovery.

The fire guard had the fire controlled in a short time, at approximately six acres in size, and turned it over to the employees of the State Protection Organization in charge of the area, upon their arrival.

JOINT WARNING ISSUED REGARDING FIRE DANGER IN IDAHO AND MONTANA

Governor John E. Erickson of Montana joined with Governor C. Ben Ross of Idaho and Regional Forester Evan W. Kelley in issuing on August 18 a statement regarding the urgency of the present fire situation in Region 1. The statement is as follows:

"Potential disaster stalks through fields and Forests of the Northern Rocky Mountain Region today.

"Many conflagrations already are taxing available suppression forces. In addition dry lightning storms have sprayed more fire from the Canadian Boundary to the Utah State line -- from the Continental Divide on the east to the Washington State line on the west. Sixty such fires were reported by Forest Service lookouts in one four-hour period· more are showing up hourly.

"Fifty ranches have been burned to the ground in Washington and Northern Idaho in the last two weeks, more than 200 people have been made homeless; entire towns are in danger; wild game has been killed by the hundreds; human lives are endangered daily.

"Weather conditions are critical. Temperatures are mounting daily. Humidity is so low that the whole country is a veritable tinder-box. Winds, variable and treacherous, run the gamut from calm one minute to veritable gales the next. 'Twisters' in the vicinity of going fires, started without warning by the intense heat, uproot trees, unroof buildings and carry flaming embers for miles to start new centers of flaming destruction.

"Weather reports promise continuation of these disaster-breeding conditions; latest report from the Spokane weather bureau promises more dry lightning and more heat -- with no relief in sight.

"National, State, and private agencies are fighting the 'red demon;' these men have been under heavy and increasing pressure for more than six solid weeks. Every new fire not only adds to their burden, but increases the risks which all communities, all ranches and owners of ranch property inevitably must face.

"Under these conditions, to ignore any fire, -- be it in grain-field or pasture, back-yard, beside the road, or in forests, -- is to invite disaster. Every fire -- no matter how small -- is a potential catastrophe; each one the start of a possible holocaust, which may be avoided only as every man, woman, and child realizes fully the danger and takes prompt and immediate action.

"While these conditions are upon us, not a fire should be built outside the four walls of a house. There should be no clearing of land with fire, and no burning of brush or refuse. Every fire which is discovered -- be it near home or far away, be it large or small -- should be put out without fail and without delay by the first person who sees it.

"Today, more than ever, the responsibility is a personal one. Care with fire and quick, prompt and direct action in extinguishing going fires is the only way to insure safety to towns and ranches, grain-fields, forests, -- human lives."

A CLOSE UP ON FIRES IN R1

The height of fire season is with us (Aug. 18, 1931). Were it not for outside fire and the demands of the head of the Deer Creek fire, Kootenai, for overhead and man power and equipment we would be sitting pretty well.

The following outside fires all big ones are demanding a lot of our resources:

1. Ione
2. Indian Reservation Fire north of Camas Hot Springs on East boundary of Cabinet.
3. Three Reservation fires on Jocho River drainage.

The Spread Creek Fire on the head of the Deer Creek fire, spotted badly in green timber. To put out every spot is almost an overwhelming job. But there is no other step that can be taken. It is the worst fire to handle that I have ever seen. It's head is about 15 miles around with innumerable miles of perimeter on the hundred of spots, some of which never reveal themselves until the humidity goes down and the winds blow. This fire will be with us until the rains come.

The big Kaniksu fire was a terrible blaze. The 70 to 80 miles of trench were put in in four days' time and practically none lost. Not to exceed two miles all told. There was not a chance to catch it from start at 11 a.m. until 7 p.m. when its run had spent itself. Spots were cast fully six miles ahead of the main fire.

The Ione fire developed on state territory. It burned for two weeks or more back between the Pend Oreille and the Colville River. Sunday it all but licked the towns of Ione and Tiger. Came to the city limits of both, but by some stroke of fortune the villages escaped. It jumped the river north of Ione in two places. Men stationed on the east side in anticipation of such an eventuality, killed one spot at 20 acres; the other ran away from them to the top of the Dry Canon Ridge. Its perimeter was estimated at 4-1/2 miles 2 hours after its start.

I decided that unless we killed the fire on the west side facing the River we would be endangered for weeks. So put a force in. Accordingly we are fighting fire on both sides. Yesterday morning at 3 a. m. we had four and half miles to build. We built 4-1/4 miles by night but had still 4 miles to build due to the spread of the fire. On the east side about 3-3/4 miles of trench was put in yesterday with about one mile to go last night.

Last night was a buster of a fire night. Very windy, with lightning over Nezperce, Selway, Clearwater, St. Joe, Lolo, Deerlodge, Cabinet; Forty-seven fires set in Powell and Seeley Lake Districts. One or two got off to a running start. Clearwater had all theirs sewed up last night at midnight - 2 grew to be one acre big.

Fires on Selway were back in the Bear Creek District. Shot some picked first line men to Moose Creek by plane this a.m. at daylight to help out local forces. Do not intend to spend much money in that back country.

In the front, however, I can see nothing to do but to grab the fires at whatsoever cost and without delay. If they ever get the bulge on us we are lost.

I'll tell you there has been a lot of effective action taken this summer but speed on these big fires costs money and the wastes are spirit deadening.

We are making progress in trench narrowing, use of plows and speed.

We have a fire going in Fish Hook Creek on the St. Joe which worries me. Sent more overhead in there today. Also sent some carefully picked men.

The Midget Creek Fire 36 miles above Avery will be surrounded by tomorrow. That pack distance places a decided limitation on our ability to man it for early control. We are hoping against hope that another buster will not hit before the lines are closed. Myrick is on that fire.

You are probably wondering why I am not out. Kind of busted up. The Forester and I collided with the top of a dead tree the other day. It came through our windshield. Cut and bruised the Forester's arm badly and poked a hole in my ribs on the right and squeezed me in some manner that makes my chest feel like all my ribs are busted. My right arm is about useless from a strain in the ligament of the elbow. My hand is bunged up. Perhaps a small bone broken but likely only a bruise. As soon as the soreness disappears I will be as good as new.

Was driving along a new road. Inside wheel dropped into a soft spot. Threw car against the bank. A projecting log caught the windshield; came through between Major Stuart and me, cut and bruised his arm and did its business on me as the car advanced and the log was caught by the windshield standard. I was on the loose end and acted like load on the end of the crow bar. The moving car the power, and the standard the fulcrum. At any rate the top of the tree broke from the strain and I got strained. The broken top then got mixed up in my hand and steering wheel. The latter had all but one spoke broken. We are lucky to be alive. If the pole had been 3" to the right it would have drilled the Forester and that much the other way would have made it necessary to hunt for a new Regional Forester. I am lying low until some of the soreness leaves my chest and arms. Chest squeezing affects my breathing simply from soreness of the bones I guess. And we were running in low when it happened. E. W. Kelley.

EFFORTS BEING MADE TO REDUCE FIRES CAUSED BY HUMAN AGENCIES

Nothing but vigorous fire law enforcement or psychiatry can do much to reduce the number of fires set by incendiaries in the Forests or in the cities. Much can be done, however, to inform and impress the general public which is responsible for many disastrous fires caused by plain carelessness or ignorance.

Typical efforts along this line are reported by the Forest Supervisor of the Flathead National Forest, in the following report:

"Practically every business house in Kalispell has been visited and during each period of extreme fire danger they are inserting fire slogans and warnings in all of their advertising in newspapers, over the radio and in the movies. Several firms wrote up lengthy announcements, changing these every few days, appealing to the public to assist in preventing and suppressing fires. In addition to this, the Broadcasting Station (KGEZ) reads special notices prepared by us at frequent intervals during their twelve hours of broadcasting so that there is a fire prevention announcement about every fifteen minutes.

"The owners of this station have offered us their facilities free of charge at any time, day or night, for as much time as we want. If it is after hours, we have but to call the announcer and the operator, and they will gladly go on the air. If we happen to be out of telephone communication with the field at any time, we can broadcast any important messages over Station KGEZ.

"One of the local garages wrote up a special notice including a fire slogan regarding the requirement that visitors to the National Forests go equipped with shovel and axe for use in putting out their own camp fires and for possible use in prompt suppression of fires started by other visitors or by lightning. They had this mimeographed by the Chamber of Commerce stenographer and are distributing them to all cars that enter the garage, attaching them to all work sheets, and mailing them out with statements.

"The banks are also mailing these notices out with their statements and many other business houses are mailing similar warning with their monthly bills.

"The newspapers are using fire slogans for fillers. They have written several editorials and also several front page warnings for us.

"In Kalispell every time one picks up a local paper, or attends a picture show, he sees plenty of fire prevention pleas, and if one tunes in on KGEZ, a fire announcement can be heard at any time of the day."

YE EDITOR DISCOVERS

Major Stuart has returned to Washington after an extended trip to the western Regions. On his trip through The Southwest, California, Oregon, Washington, North Idaho, and Montana, he was accompanied by Secretary Hyde. Some time was spent by him with Regional Forester Kelley and several of the large fires then in progress in Region 1 were visited. In company with Regional Forester Show he examined the Kings River Canyon country proposed for transfer to the Sequoia National Park, and other parts of Region 5. He also attended at Salt Lake City on August 17 the Economic Conference of Governors and other representatives of the Western States called by Governor Dern of Utah.

- - - - - - - -

The Forester's Annual Report will show an active and enlarged land acquisition business. During the calendar year 1930 reconveyances to the United States of 225,075 acres of private lands in exchange for 55,551 acres of National Forest land and 180,976,000 board feet of National Forest stumpage, valued at $422,274, added a net area of 169,524 acres to the Forests. The Secretary of Agriculture approved and referred to the Secretary of the Interior for further action 157 new cases offering 304,906 acres of privately owned land in exchange for 30,890 acres of National Forest land and $570,844 worth of National Forest stumpage. As a result of the 53 general and 13 private land exchange laws enacted by Congress to date the record as of December 31, 1930, showed a total of 691 land exchange cases to have been consummated. Through them the United States has acquired 1,005,527 acres of land, valued at $4,119,155 in exchange for 297,697 acres of National Forest land, valued at $1,538,278, and 768,563,000 board feet of National Forest stumpage, valued at $2,096,789. Besides the net gain of 713,830 acres in National Forest area, the volume of stumpage on the acquired lands is much greater than that surrendered.

The purchase work attained larger proportions than ever before. During the fiscal year 1931, title was taken under the Week's law, as amended by the Clarke-McNary law, to 594,091 acres, at a cost of $1,869,944.27. Purchases totaling 547,945 acres and aggregating a total obligation of $1,943,736.21 were approved by the National Forest Reservation Commission during the year. The average price of $3.29 per acre for lands approved for purchase and of $3.15 per acre for the lands actually acquired compares with a previous average of $4.93 for all lands acquired. At the close of the fiscal year title to 4,007,386 acres had actually been vested in the United States at a total cost, not including overhead, of $18,688,536.02, or an average of $4.66 per acre.

- - - - - - - -

Rich agricultural resources and abundant waterpower, waiting only for transportation facilities to make them productive, are pictured in reports from engineers of the Bureau of Public Roads, who are making a reconnaissance survey for the proposed Inter-American Highway from Panama to the United States.

The variety of natural resources existing in and near El General valley, in southern Costa Rica not far from the Panama border, is amazing, according to the surveyors. In one locality, extending over an area, to traverse which required the greater part of a day on horseback, they found a great forest of "white oak." That this timber can grow in a semi-tropical region is probably a result of the elevation, varying from 3,500 to 8,000 feet above sea level.

- - - - - - - - -

The week of October 4, 1931, has been proclaimed by President Hoover as National Fire Prevention Week.

- - - - - - - - -

Because of disastrous conditions caused by prolonged drought, the season for hunting ducks, geese, brant, and coots throughout the United States and Alaska has been reduced to one month by an amendment to the Migratory Bird Treaty Act regulations, approved by President Hoover on August 25. The amendment becomes effective immediately.

In the northern half of the country except Alaska, the season on ducks, geese, brant, and coot under the new regulations will open October 1, and in the South November 16, except in Florida, where it will begin November 20. In Alaska the season will be from September 1 to September 30. The seasons on Wilson's snipe, or jacksnipe, sora, woodcock, and doves have not been changed.

- - - - - - - - -

GENERAL SHERMAN TREE IS LARGEST LIVING THING

The largest living thing on earth is the General Sherman sequoia tree in Sequoia National Park. A committee of engineers has just completed precise measurements of the big trees of California and has awarded the championship to this tree, with the General Grant tree second.

Over a thousand observations and calculations with precise engineering instruments, showed that the General Sherman giant redwood has a volume of 600,120 Board feet, a height of 272.4 feet, a circumference at the ground of 88 feet, and one limb alone has a diameter of 6.8 feet.

The sequoias were measured by engineers representing the California State and Fresno Chambers of Commerce. - Science News Letter for Aug. 22, 1931.

HIGHEST AIRPLANE LANDING FIELD IN CALIFORNIA

The highest landing field for airplanes in California has just been put in order at the Tunnel Ranger Station, Inyo National Forest, on a fork of Kern River, at an elevation of 9,000 feet, and on July 30 the first landing was made by Pilot Bob Larsen, flying a plane belonging to a Los Angeles man. The owner and his wife were passengers in the plane when the first landing on the new field was made.

In order to give the field a more thorough trial, Mr. Larsen took off with a passenger and then landed in the opposite direction, after which he finally took off with three passengers and their luggage.

The practical use of this landing field is of especial interest to disciples of Izaak Walton, as this new field is practically on the banks of both the South fork of Kern River and Golden Trout Creek.

That trout fishing in the high Sierras appeals to sportsmen of California is shown by the fact that already this season there have been 18 landings made at another field on a natural meadow and nine landings at still another field, both being somewhat lower in elevation.

FRENCH INVESTIGATOR LAYS FOREST BLAZES TO BITS OF BOTTLES

To the notices warning tourists of the danger of throwing down cigarette ends and matches in dry wooded districts should be added a warning that bottles, even broken bottles, are the most disastrous of all causes of forest fires, according to Dr. Beroud of Marseilles, who has spent several years examining the origin of such fires in Southern France. Twenty per cent of the cases where no cause can be found for the fire outbreak, he says, may be safely attributed to a piece of curved glass from a broken bottle thrown away by picnickers or hunters.

These bits of broken curved glass can act as a magnifying glass, concentrating the sun's rays and starting fires even more easily than could be started by cigarettes. In one case a man accused of incendiarism in the South of France proved his innocence by the discovery of a bottle end at the spot where the fire started. - From The New York Times. -

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 37 Washington, D. C. September 14, 1931

FIRE THREATENS PRIEST RIVER EXPERIMENTAL FOREST

(From a letter by R. H. Weidman, Northern Rocky Mountain For. Exp. Sta.)

The Priest River Experimental Forest has just had another narrow escape from a large and threatening fire. The Freeman Lake fire of 24,000 acres, now on a mop-up and patrol basis, has burned to within a mile of its south boundary. In 1926 the Quartz Fire of about 10,000 acres burned to a point within a mile of our west boundary.

In order to give you an idea of the threat to the Priest River Station I would like to let you have a few first-hand facts on the Freeman Lake fire. I might say that I have just returned from a nine-day assignment on this fire, during which time I assisted Supervisor Ryan at the fire desk in Newport. The fire started about 11 a. m. August 3 at Freeman Lake just outside the boundary in the southwest corner of the Kaniksu Forest. It happened that blow-up conditions existed at the time the fire started; temperature was high, humidity was low, and there was an unusually high wind. The fire traveled very fast, spotting for miles ahead, the farthest spot in Big Creek (Sec. 5, 57N., 3 W.) fifteen miles away from point of origin being ignited at 4 p. m. the first day.

The essential facts of the fire are briefly: area 24,000 acres; 90 miles of trench; 15 camps; 1,475 men; 5 pumps; 8 plow units.

As far as my observation goes in this Region, the Freeman Lake fire was as efficiently handled as any large fire I have ever known about. Some 300 men were on the fire by the night of August 3. Eight or nine overhead officers and a number of experienced foremen were sent to the fire from Missoula and other points on the afternoon and night of the first day and by morning of August 4 eight camps and 500 men were already on the fire and other camps were being moved in. Airplane observations on the advances of the fire perimeter were secured every day and on the two worst days there were three flights a day. The plane landed at the Newport air field and the observer reported at the Supervisor's office with his map changes after each flight. Transmission of information and instructions from the Supervisor's desk to the men in charge of sectors, and coordinating of efforts between camps, as well as handling of orders for men, equipment and supplies were carried out by Supervisor Ryan and others with, what seemed to me, the utmost dispatch and efficiency. Plows were used effectively under the direction of the Regional officer in charge of plow units, who was sent out from the Regional remount depôt on the first night of the fire. This man reported 8 plows in use on the fire and 30 miles of line built by plows. The lines were almost closed by the end of the fourth day and on the fifth day the remaining small stretches of open fire were surrounded and mop-up work was well under way. This strikes me as a fine piece of fire fighting, considering the perimeter of 90 miles and area of 24,000 acres, with some 20 odd spots varying in size from a few acres to 350 acres which burned in scattered localities at the head of the fire. I left the fire on the ninth day and at that time mopping had proceeded so that the lines were everywhere quite dead. Six hundred men were still on the job and two crews were being held in reserve at strategic points on the east and west sides of the fire for immediate dispatch to danger points.

NEW FACTOR IN PUBLIC RELATIONSHIPS

By L. F. Kneipp, Washington

The traveling public hitherto has been able to gain only a limited knowledge of the nature and extent of the forest resources of the country. They could not see through the fringe of timber along the roadsides, or beyond the summits of the adjacent ridges, or into the tremendous territories of back country where the lack of road facilities discouraged general travel. Knowledge of the character and extent of the forest resources therefore depended upon information and belief rather than personal observation.

The increasing popularity of travel by airplane is going to effect a radical change in this situation. Travel will be by direct routes, uninfluenced by the availability of roads and trails, and from his vantage point of one to two miles in elevation above the forest area the traveler personally can observe in minute detail the nature and distribution of the timber stands. Instead of the blurred impressions obtainable by ground travel at speeds of 40 or 50 miles per hour, the airplane traveler, even though moving through space at 100 miles or more per hour, by virtue of his longer angle of vision actually will have a given area under observation for a much longer space of time and will be able to form definite impressions as to its timber cover, the satisfactory or destructive character of logging operations, the degree of erosion, and the other factors relating to the conservation of the land.

The time therefore is fast approaching when many men in private life who travel frequently over a given part of the United States will be able to discuss forest and watershed conditions with a degree of personal knowledge and facility of understanding which in many cases will be equivalent to that of the officers administering the forest properties. The average National Forest no longer will be terra incognita to the public but will become a well-known and familiar region to all of the business and professional men whose activities involve frequent air travel. It therefore behooves the Forest Service to anticipate and realize the full educational advantages of this new public knowledge and understanding of our problems and accomplishments.

THIRTEEN ANNUAL FIRES IN THE LONGLEAF PINE TYPE

By A. L. MacKinney, Appalachian For. Exp. Sta.

Controlled or "light" burning, which has been practiced for many years in the southern pine region, is still strongly advocated by many people as a means of protection from disastrous fire and in the effort to improve forest range conditions. To determine the effects of annual controlled fires on the growth of longleaf pine saplings, experiments were started at Summerville, S. C., by W. R. Mattoon and C. R. Tillotson in 1916. Fifty longleaf pine saplings, averaging ten years of age and ranging from 1.3 to 9.3 feet in height, were tagged and measured on each of two contiguous areas. One of these areas, approximately 1 acre in size, has been burned over annually since that time and the other has been burned over only once, by an accidental fire in 1917.

The tagged trees were remeasured in 1919. All numbered trees which could be located were again remeasured in 1929 by C. F. Korstian and the writer during the establishment of permanent sample plots on the burned and unburned areas. At that time 29 trees were found still bearing tags on the annually burned plot while on the unburned plot only 16 of the original trees were identified.

Average values were computed for the diameter, height, and volume growth of these two groups of trees. The average height growth was computed for the 13-year period, but the diameter and volume growth were computed only for the 10-year period, 1919-1929, because diameter measurements were not taken in 1916. The significant data are presented in the folfowing table:

	Year	Annually burned area	Unburned area
Height-feet			
Average	1916	5.0	6.1
	1929	29.9	37.1
Total average increment - 13 years		24.9	31.0
Average annual increment		1.92	~~31.0~~ 2.38
Reduction caused by fire		0.46 or 19%	
Diameter B. H. - inches			
Average	1919	2.57	2.63
	1929	5.47	5.82
Total average increment - 10 years		2.90	3.19
Average annual increment		0.29	0.32
Reduction caused by fire		0.03 or 9 %	
Cubic volume peeled wood per tree - cubic ft.			
Average	1919	0.204	0.246
	1929	2.151	2.731
Total average increment - 10 years		1.947	2.485
Average annual increment		0.195	0.249
Reduction caused by fire		0.054 or 22%	

In view of the small number of trees included in these samples it is of course possible that the difference in average growth of the two groups might be explained on grounds other than fire. This is, however, unlikely since practically all trees subjected to annual burning showed reduced height and diameter increment. Also, the reduction of 22 per cent in volume growth on the burned plot appears large enough to be significant.

A consideration of the stand tables for the two plots which were established on the areas in 1929 shows that the annually burned plot contains only 61 per cent as many trees per acre as the unburned plot. It is impossible to say that this reduction in numbers was due entirely to fire because no data were taken on the number of trees per acre in 1916 or 1919. However, W. R. Mattoon states in the 1916 establishment report: "The tracts are adjacent and the conditions quite similar." A consideration of the unburned stands which surround the annually burned plot on three sides strengthens the belief that stand conditions on the burned plot were comparable to those on the unburned plot prior to the beginning of the experiment.

It is therefore believed that the average height and diameter of the larger samples of trees on the burned and unburned plots, totaling 135 and 222 trees respectively, reflect the effects of annual burning more accurately than the data previously presented for the small amples. The average diameter breast high of all trees on the annually burned plot is 4.4 inches while that of the trees on the unburned plot is 5.1 inches. There is a larger difference here than at first appears because the burned plot, having a density of stocking only about two-thirds as great as that on the unburned plot, should have produced trees of larger diameter if other inhibiting factors had not been operative. It is impossible to say how fast growth would be on an unburned plot with the same density of stocking, but an estimate of a 20 per cent increase over the present rate of growth appears conservative. The difference in the average height of the trees on the two plots, 7.4 feet, is quite noticeable. If the trees on the two plots had the same average height at the time the burning experiment was started the fires have resulted in an average annual reduction in height growth of 0.57 foot per tree.

The volume of peeled wood in the stands on the two plots shows a composite of the effects of fire on height and diameter growth. Put on an acre basis the stand on the annually burned plot contains 635.4 cubic feet while the trees on the protected plot contain 1306.1 cubic feet per acre. If, as seems likely, the areas were similar when the experiment started, the annual burning has reduced the volume of wood produced in the stand 670.7 cubic feet per acre in 13 years, or 51.6 cubic feet per acre per year.

The unburned plot is characterized by the occurrence of loblolly pine reproduction in an opening in the stand. This reproduction ranges from 1 to 14 feet in height. On the annually burned plot there is not a single loblolly pine, although there is a hole in the stand very comparable to the one on the unburned plot. The annual fires have very effectively prevented the establishment of all tree reproduction.

The removal of the humus and litter layer by annual burning is strikingly shown. The annually burned plot is absolutely devoid of litter and humus while on the unburned plot the humus is about one-half inch and the litter 3 to 5 inches deep.

The soil on the burned plot has a cover of grass with an approximate density of 0.8. In contrast to this the unburned plot has no grass cover except in a small opening where the crowns of the loblolly pine reproduction have not closed. The presence of the litter and humus and the greater density of the crown canopy over most of the plot have prevented the establishment of the grass and herbaceous cover.

ON THE FIRE LINE

By Roy Headley, Washington

The loss in acres burned in Region 1 to August 20 is ten times as great as during the year 1930, yet it is only a little over half of the average annual loss for the last five years.

While the loss in Region 2 is larger than in 1930, or than the average, acreage figures mean little here because most of the area burned is on the Nebraska National Forest where 12,000 acres have been successfully planted in a grass covered sandhill region.

In Region 3, while the record to date this year is not so good as in 1930, it is a fairly satisfactory record, and since the summer rains which normally should occur in this Region have fallen to some extent, no further great difficulty with forest fires is anticipated.

The loss to date in Region 4 is the worst experienced in the history of these National Forests except in the two bad years of 1910 and 1919, when 197,000 and 194,000 acres, respectively, burned. From such information as is now available in Washington, it is believed that the most of this area lost is in the inaccessible territory lying south of the Salmon River. While the losses and cost of fire suppression are regrettable, the losses would have been much greater if anything like the same area had burned in more accessible areas. It is not believed that much of the valuable timber producing and watershed protection land which has burned near Boise lies within the Boise National Forest.

In Regions 5 and 6 the losses of area to August 20, while more than twice the area lost in 1930, are less than half the average annual loss for the five-year period ending with 1930.

In Region 7 losses to date compare very favorably indeed with both the 1930 loss and the average. It must be remembered that 1930 throughout the East, was a season of contiouous and extreme drought. This year rains have been largely normal and this Region is passing through its period of lowest fire danger. Some trouble must be expected when the hardwood leaves begin to drop in the fall.

The supply of fire fighting equipment has been exhausted in Region 1. Weather conditions have been such that after a fire is controlled, an unusually large force of men must be retained for "mop-up" work and to be on hand when the next wind rises and fires still burning in the interior of the burn may flare up. Surrounding a fire with a standard form of line is of course useless unless the fire is held within such lines after initial control is established.

Bedding required for the small army of fire fighters who must be able to rest during the cold nights if they are to work effectively when on shift, gave out entirely some days ago and the procurement branch of the Regional 1 organization has been searching frantically for an additional supply of blankets. The War Department has approved a loan of the additional bedding needed.

FAST GROWTH DOES NOT A MARKET MAKE

By Arthur Koehler, Forest Products Laboratory

In the Service Bulletin for August 3 "Ye Editor" points out the discovery of a new species of oak, namely _Quercus nuttallii_, and he closes with, "This tree bids fair to become of considerable importance in future forestry in the southern bottomlands because of its adaptability to sites usually too poor for the production of good quality timber from other species, its rapid growth rate, its repeated reproductive qualities, and the high quality of its wood." We wonder on what basis the quality is judged. The oaks are among the most variable of species, and because a tree has a good form, is relatively free from limbs, and is rapid growing, it does not necessarily mean that the wood is of high quality, particularly if it is rapid growing. Or because a species produced wood of good quality in its virgin state it does not mean that it will do so ipso facto as a second crop. The following are some of the things that may be worng with oak wood even though it looks good superficially:

1. It may be too hard for efficient handling in wood working plants, and, therefore, its use must be confined to ties, timbers, piling, and such less profitable uses.

2. It may be brash on account of a scarcity of wood fiber and a preponderance of parenchyma and tracheal tissue (even though it is fast growing), and therefore cannot be used where strength is essential.

3. It may fuzz up so badly in surfacing that it is practically impossible to give it a smooth finish.

4. It may check, warp, and collapse so badly in seasoning that it is not suitable for lumber or even ties and timbers.

All of these undesirable features have been found in southern swamp oak, especially in wide-ringed material. The conditions of growth seem to be far more influential in determining the quality of the wood than the species of oak, so we question the quality not so much for its being a new species as for the rapid growth which it attains in the southern bottomlands.

Too often foresters cannot see the wood for the trees. Too often emphasis is put on ease of reproduction, fast growth, and volume yields without considering what the wood may be good for after it is grown. The quality of the timber that will be produced should be an important factor in selection of the species and of the silvicultural practice to be followed in reforesting the southern hardwood areas, otherwise we may have a crop of wood which, like the eucalyptus of California, grew rapidly but is of little value.

ACCOMPLISHMENT

San Francisco, Calif., Aug. 28, 1931.

"Very serious fire situation continues. Last few days Plumas has had five bad fires Beckwith, Mount Hough, Lost Creek, Strawberry and Nelson Creek. All but Lost Creek and break on Beckwith now controlled. Modoc had two thousand acre fire near Adin controlled. Lassen controlled bad State fire near Shingletown near protection boundary and series North Mineral. California has fire North Potter Valley and controlled fire near Upper Lake. Stanislaus stopped fifteen thousand acre State fire Merced Canyon using recent motorways on rim. Sequoia has successfully held down series incendiary fires vicinity Badger and Pinehurst. Enormous State fires Monterey County have been kept off Forest. State fire near Atascadero burned twelve hundred acres inside and eighty five hundred outside now controlled. Cuyama fire Santa Barbara controlled at twenty two hundred acres. Have closed this portion Forest. Angeles, San Bernardino and Cleveland have caught several starts in bad places as small class C. Many of our recent fires are incendiary and State is swamped by incendiaries chiefly account unemployment. Have made several successful cases against incendiaries on Klamath, Trinity, and Lassen. Organization has done very fine and consistent suppression work with possible exception one Plumas fire. Have not lost fires after once rounded up aside from relatively minor breaks." - R. 5.

A lightning storm hovered over the Salmon long enough Thursday, August 20, to keep the entire personnel in hot water for several hours. Twenty fires were reported within 2½ hours and ten more were reported before the day was ended. Everyone was on his toes and only one fire (23 acres) reached a Class C stage, while five became Class B's.

Willard Rood, Jr., Lookout on Sagebrush Mountain, proved himself a real fire fighter when he went out and brought under control, singlehanded, two Class B fires and completely extinguished four Class A's before returning to his lookout point. Several men had been dispatched to the fires which all occurred within an area two miles square, but the lookout had placed all under control before the follow-up was able to reach them. The fires were located in a remote inaccessible part of the forest. - R. 4 Bulletin

TE EDITOR DISCOVERS

The monthly review of the General Land Office carries a tabulation which shows that on July 1, 1931, the unappropriated and unreserved public lands of the United States aggregated 177,101,551 acres. Of this, 127,265,885 acres are surveyed and 49,835,666 are unsurveyed. The State containing the largest acreage of this land is Nevada, with 51,399,296 acres, followed by Utah, with 25,157,000 acres; California, with 16,046,948 acres; Wyoming, with 15,256,530 acres; New Mexico, with 14,383,995 acres; Arizona, with 14,366,400 acres; Oregon, with 12,982,257 acres; Idaho, with 11,485,297 acres; Colorado, with 7,657,140 acres; and Montana, with 6,410,032 acres. A number of other States contain varying areas of less than one million acres.

- - - - - - - -

In order to save the lives of valuable trees in Washington, D. C., the undernourished condition of which is thought to be the result of last year's drought, artificial feeding methods are being resorted to by the Office of Public Buildings and Public Parks. At regular intervals during the summer, tree experts have been feeding the trees with meal by drilling holes 3 or 4 feet deep, near the base of the tree, filling them with meal and pouring in a quantity of water to make the mixture spread. This also was done last year during the severe drought.

- - - - - - - -

A giant cypress tree, estimated at 1300 years old, and containing 16,175 board feet, was cut recently in the Amite river swamp in Livingston Parish, La., reports Extension Forester Robert Moore. The tree had a merchantable length of 86 feet 8 inches, a stump diameter of 92 inches, and was sound throughout. Its age was determined by a count of the annual rings. The tree was the property of the Lyon Lumber Company, Grayville, La.

- - - - - - - -

Supervisor Koen of the Ozark Forest states that an unfortunate and unauthorized announcement by an Associated Press correspondent regarding road construction being undertaken on the Ozark last winter resulted in such an influx of job seekers from remote points that a foreman of a small camp rejected during one 24-hour period 600 applicants for road jobs.

- - - - - - - -

Miss L. L. Anderson of Region 7 left Washington on August 31 to attend, as a delegate from Local No. 2, the National Convention of the National Federation of Federal Employees, to be held in Seattle, Wash., September 7 to 12, inclusive. Miss Anderson is President of the Department of Agriculture Branch of the Federation, which is a member of Local No. 2. Before returning to Washington, she will visit San Francisco, Los Angeles, the Grand Canyon, and Denver.

ASK TREE LOVERS TO HELP SCOUT FOR CASES OF DUTCH ELM DISEASE

All tree lovers of the country are asked to cooperate with the U. S. Department of Agriculture in its search for elm trees that are affected with the Dutch elm disease, a new menace to elms which was discovered in the United States for the first time last year.

Usually the first symptom of the Dutch elm disease is the sudden wilting of the leaves of a part of the crown of the tree, of the entire tree, or of the tips of some of the side branches. Drying of the leaves and defoliation of the affected parts may follow. The wilted leaves often turn yellow or brown before falling, and the affected parts stand out in color contrast with the rest of the tree. At times the wilted leaves remain green and crisp and cling to the twigs. The one or two end leaves frequently persist longer than the others and the tips of the twigs bend, giving a characteristic appearance, which may be of value in detecting affected trees in winter.

If a clean cut is made across a twig affected with the Dutch elm disease, a brownish discoloration will be seen in the sapwood. In general the discolored tissue does not form a completely closed circle but is made up rather of numerous small brown dots. If the bark is peeled away and the sapwood exposed, the discoloration is evident as a series of short, brown streaks. A single streak does not extend for a long distance down the twig. In late summer it is sometimes necessary to cut away some of the summer wood to find the short stippled streaks in the spring wood.

Pathologists, foresters, tree repair men, and tree lovers everywhere are urged to continue their efforts to discover any isolated cases of this disease. Specimens suspected of having the disease may be sent from any State to the Dutch Wlm Disease Laboratory, Ohio Agricultural Experment Station, Wooster, Ohio. The best specimens for laboratory culture are twigs and small branches from one-quarter to 1 inch in diameter and from 5 to 10 inches in length. They should be taken preferably from a part of the tree that has recently wilted or died. - U. S. Dept. of Agri. News Release.

PORKY TO THE RESCUE

Some careless individual traveling on the Arrowhead District of the San Bernardino recently started a fire just above a pen of hogs. Appreciating their "responsibility", the animals immediately raised such an uproar that a man who was working on a ditch a short distance away investigated and found the fire, which was held to a small acreage by the prompt action by Forest officers and cooperators.

It is not fully established whether the message of fire protection was received by the hogs from the prevention signs posted by the officers of the San Bernardino or from listening in to some of the stirring fire talks delivered by the Supervisor and his men. At any rate, the Forest's prevention work seems to have paid big and the old saw of the futility of "casting pearls before swine" has been exploded by the San 5Bernardino modern methods of approach. R. 5 Bulletin

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 38 Washington, D. C. September 21, 1931

GUESSWORK IN FIRE FIGHTING

By S. A. Nash-Boulden, Santa Barbara

Can fire fighting be reduced to a rule of thumb? Absurd! Then, cannot we at least eliminate some of the guesswork that is found from time to time?

Here is what too often happens. The lookout reports a fire bearing 80°. The second lookout says it is 350° from him. The Dispatcher checks these readings and finds the fire to be at the forks of Chokecherry and Bitter Creeks.

Weather conditions are about normal for the territory concerned. The fire can be expected to travel at a rate of _?_ miles or feet per hour. It will take the nearest suppression crew _?_ hours to reach the fire, by which time the perimeter of the fire will be _?_ feet or miles.

How many men shall he send _?_. The District Ranger says "That's a bad country. Send 50 men." These men finally arrive on the fire. It has spread more than the District Ranger guessed. He telephones or heliographs back "Send 50 more men and supplies for 100 men - 2 days."

By the time the second crew arrives the fire still looks bad. Fear grips the District Ranger. "I don't believe a hundred men can handle it," he says to himself, "I'll order 50 more men." In due time these arrive. The battle is on. Midnight comes. The fire quiets down. Good progress is made. Firelines are cut and patrols placed along either side. Daylight comes. "Cheer up, boys! - only 1,000 yards more to control". The fire fighters are getting weary. They hurry to make the closure. They tend to skimp line construction. The sun in up; the wind stirs restlessly. By 8 a.m. it is blowing strong. The short uncontrolled section blazes up here and there. At 8:30 a.m. it breaks badly. and is off for a new start with a full hot day ahead of it. "Too bad," says the Fire Chief. "we made a good try. I only wish I had ordered 150 men on the first order, then I believe we would have controlled it by midnight. I did not realize the cover was so dense, and I certainly thought the crew could construct more line than they did. It also took longer for the crew to reach the fire than I supposed it would."

Fortunately here in Southern California, we have good topographic sheets. A cover type map is just being completed by the California Experiment Station. We have, as elsewhere, gathered a lot of figures on the individual fire reports, showing length of held line per man hour. We have some figures on rate of spread. A start has been made on transportation study.

A road system is being built. On the Santa Barbara Forest, however, at the present rate of construction it will take years to complete even the main arteries. But good progress is being made even at that.

I am wondering if I shall live to see that happy day when the Dispatcher will glance at the location of the reported fire on his map, and there find indicated the number of men, tank trucks, airplanes, chemicals, or what have you by that time, needed to suppress the fire before it spreads to great proportions; all of which will be based on facts and figures for the area concerned. Until this happy day arrives, what can we do to suppress a greater percentage of fires not later than midnight of the first day, and to relieve the strain of knowing that should a fire occur under adverse conditions within certain areas we are due for plenty of trouble?

Until the time comes when the public in general will cause less fires, and lightning fires are heard of only in history, "Organization" is the key to our fire-fighting success. I do not believe this has been stressed sufficiently in the past. There is a tendency to place a greater number of men on the fire line than the small overhead behind the lines can handle efficiently, or mold into a reasonably smooth running unit.

The camp boss job, for instance, is one of the most important jobs on the fire, and upon this individual depends largely the success or failure on the line. Too many things are apt to go wrong without an efficient camp boss; accurate information is not available for the man in charge; lunches and water fail to arrive on the line on time; or at the proper location; time slips are inaccurately kept; tools not ready on time; food supplies are short; no accurate log or chart is kept as to number of men on a certain sector, or the name of the division or crew bosses.

Too much time is lost finding out the number of available crew leaders in camp for the relief shift; cooks do not prepare food properly; dishwashers waste time, etc. etc. All of which can be eliminated if the man in charge of the canp is hitting on all six. The position of camp boss is too apt to be considered as that of a watchman.

Some one is reported burned. The lack of information as to the individual causes considerable confusion and embarrassment. Time is lost in identifying the unfortunate one; insufficient data are available as to names and addresses of dependent relatives, which are badly needed at such times.

Too often an improperly trained or inadequate number of scouts, division bosses, and similar key men, are not available. One man says he needs 30 additional men to mop up a fire, when 5 under competent leadership and one who knows how to make a line safe could do the job.

Often too much line is given each sector boss for the topography he has to cover, with the result that it is impossible for him to cover the whole operation as he should.

Fighting large and inaccessible fires at the best is a big job, requiring a cool head, and I am convinced we must spend more time in training and developing competent overhead for the numerous but necessary jobs. Again, this training must be standardized in order that a man trained for a specific job can fill satisfactorily a like position on another Forest.

There are many ramifications of this, upon which pages could be written, but first, I believe we must agree on the type of organization necessary to handle all contingencies that can be expected to arise on a big conflagration.

Some will say: "Prevent fires or get them while they are small, and all the above will not be needed." True - but I am just pessimistic enough to believe that for some time to come we will have at least a few large fires to deal with, and the ones we can prevent or corral while small will cause us no concern.

After all, it is the large fires that burn most of the acreage, and upon which most of the fire fund is expended.

But let's not lull ourselves into a sense of security behind tank trucks, roads airplanes, etc., which are all a great improvement over the older methods, but be prepared to handle the bad fire situations while we are waiting for the millennium.

ACCOMPLISHMENT

The following was selected from the annual reports to the Regional Forester by Region 7 Supervisors.

Ouachita Accomplishments Fiscal Year 1931

General Administration

Personnel (Men trained to new positions)
District Ranger Anderson, Cold Springs
" " Prater, Kiamichi
" " Melichar, Womble
" " Paddock, Mena
Forest Ranger Johnson, Sales and Administration
" " Hoffman, Timber Sales
" " E. C. Haff, Acquisition (4 months)
" " K. M. Stoller, Acquisition (5 months)
" " E. E. Ripper, Acquisition (10 months)
" " E. C. Ricker, Acquisition (7 months)
A. W. Hartman, Management Assistant
H. E. Ochsner, Research Assistant
Margaret Foutes, Stenographer-Typist
Louise Brady, Stenographer-Typist, Temp. Acquisition
(14 people in new positions in 12 months)

Loveridge Work Plan and Analysis

Mena District, complete
Cold Springs District, complete
Womble District, complete
Jessieville District, Parts 1 and 2
Oden District, Parts 1 and 2

Clerical

Absorbed Kiamichi Unit
Vouchers 2,750 $279,000
Office files complete as to instructions and regulations regarding current and back files. Twice volume of work in dollars and cents of Fiscal Year 1930 with only one clerk added for six months.
Ranger files in shape according to regulations all but one day's work Oden.
Heavy load in clerical organization because of 14 civil service employees new to their duties. Clerical time study seven months.
The Executive Assistant has obtained more office space and considerably more furniture.

Fire

Worst fire year on record in length of fire season, high temperatures, low humidity, and peak fire occurrence losses held below one per cent.
Out of 400 fires in 12 months only 3 went into second burning period, one of the three being controlled at noon the second day, the other two in about three days.
Central dispatcher system initiated and gives promise of success in future.
Twenty-one successful fire trespass cases.
Believe we broke up three bad incendiary areas, namely: Dutch Creek, Hartley and Bonnerdale.
Rounded out fire suppression equipment and put it all in Standard Units.

Improvements Other than Roads

Built 4 7x7 aeromotor towers 1, 48'; 3, 62'.
Built 1 D6 Lookout House
Built 3 D5 type Cabins at Towers
Reconstructed 1 Lookout Cabin, Rich Mountain
Reconstructed 1 Fireman's cabin, Eagle Gap
Extensive repairs and betterment to Jessieville, Oden, and Womble Ranger Stations
Built 45 miles new telephone line
Overhauled all telephone system. New switchboards at 6 telephone operators' quarters. New installations at all important phones. Oden dispatcher can talk direct to any phone and Supervisor to 75 per cent of system. Will be 100 per cent direct communication in 6 months.
Dug and completed two new wells.

Management

Training of men see G. A.
Sold 7,216 MBM $33,688
Cut 10,980 MBM $63,365
Marked 26,668 MBM
Ran and posted 217 miles final boundary
Established 114 class A corners
Set 749 1/16 corners
Cruised 20,241 acres for new sales
Cruised 15,640 acres for management plans
150 Class A sales
  1 " B
  1 " C
  1 " D
Burned 2,970 acres of piled brush

Research

Management plan revisions 2 working circles put growth data in shape.
Covered 15,000 acres gross, 10,000 acres net silvicultural improvement.
Cutover area survey 3,000 acres
Research man assisted management to a great extent on miscellaneous jobs. Also was in

training and time was devoted to roads, grazing, general administration.

Grazing

An attempt has been made to do something about regulation of grazing. To date 61 applications have been received and 39 permits paid. Sooner or later we will have to run a test case in Federal Court and preparations have been made for such a case and the evidence is now being secured.

Acquisition

Men trained see general administration.

Land Acquisition

Proposals Received

Ouachita	149 cases	60,301 Acres
Kiamichi	40 "	59,275 "
Total	189 "	119,576 "

Field Examination

Ouachita	180 cases	31,502 acres
Kiamichi	28 "	130,000 (approx.) "
	208 "	161,502 "

Reported

Ouachita	133 cases	23,830 acres
Kiamichi	27 "	58,081 "
	160 "	81,911 "

Optioned

Ouachita	101 cases	12,787 acres
Kiamichi	24 "	57,000 "
	125 "	69,787 "

Approved

Ouachita	117 cases	15,038 acres
Kiamichi	23 "	56,000 "
	140 "	71,038 "

Complete overhaul of all acquisition records including files, cards, and atlas. Heretofore these records were a jumble.

Roads

Miles new road built ordinary duty 57.0

Miles road reconstructed to heavy duty	8.0
Miles motorway brushed out not fully completed	51
Miles road located and surveyed	101
Miles road maintained	125
2 concrete fords built	
1 - 120' timber bridge	
1 - 80' timber bridge	
3 carloads culverts installed as betterment	
25 Gibbett signs erected	
Concrete abutments Womble bridge built	
Much miscellaneous small project work done	
1 warehouse 32x40 completed	
1 warehouse 32x50 completed	
1 warehouse 32x50 started	
1 warehouse 32x80 materials on hand	

Miscellaneous

Many men have done outstanding work in the last 12 months. Each district ranger and each staff member, both field and office, has carried a heavy load and done the job well. It has been a year of progress.

A. C. Shaw,
Forest Supervisor.

ON THE FIRE LINE

By Roy Headley, Washington

The eleven day period ending August 31 shows the worst losses in area burned-over on the National Forests and heaviest special fire fighting expenses for any like period during the calendar year 1931. Telegraphic reports show that 135,000 acres burned-over inside National Forest boundaries during the eleven day period and that special fire fighting expenditures were over $900,000. Total special fire fighting expenditures from January 1 to August 31 are $3,013,000.

The area burned over during the last eleven days of August constitutes about one fourth of the entire area burned-over during the present calendar year, which now stands at 519,000 acres. This compares with a total acrea burned-over during the calendar year 1930 or 205,000 acres.

On September 5 the hoped for rains had not occurred in Montana, Idaho, Oregon, Washington, or California in which Regions most of the trouble with forest fires has been experienced during the past two months. Showers had occurred in Southern California and Southern Idaho but the effect of these will be slight and temporary. General and soaking rains are needed to give real relief.

Telegraphic reports received in Washington to to Sept. 5 indicate that only three fires were then burning uncontrolled on all National Forests of the United States. These fires are not expected to be serious.

Daily high winds and high temperatures are continuing in Idaho but humidity conditions are improving and the cooler nights are reducing somewhat the inflammability of the forests. Since no rains have occurred in most of the Idaho Forests a large amount of "mop-up" work is still under way on previous fires. This deadening of burning logs, stumps, roots, etc., which are back from the edge of controlled fires is necessary to guard against the starting of new fires from sparks and brands thrown from inside old fires by high winds which may occur on September days of high temperatures and low humidity.

- - - - - - - - - -

The interior of a large fire on the Idaho National Forest lying south of Salmon River, which had been controlled on the edges, was fanned into activity on September 6 and threw sparks and burning brands across Salmon River into the Nez Perce National Forest. The new fire on the north side of the Salmon River, driven before a high wind, spread up the slopes on a six mile front. Because of the cost involved in attempting high speed construction of a fire line around this new burn, it will not be pushed with the intensity which would be employed in other areas not so rugged and better supplied with protection roads. The possibility that the present extreme weather disturbances will be followed by rain lends support to the decision to take a chance on further large spread of this fire on account of lack of the usual speed in corralling it.

Late in the afternoon of September 6 a burning ranch house and barn located east of the town of Kooskia in north Idaho set a forest fire which advanced up the nearby drainages on a three mile front for a distance of four to five miles. Three ranches were burned out in this run of the fire. This fire starting a mile and half outside the National Forest boundary burned an area of probably a township, with a perimeter of approximately 40 miles, by night-fall. The terrific wind which fanned this fire was followed by a slight rain. Some rains has occurred over other National Forests of Idaho and Western Montana but a large block of National Forest land remains dry with high winds.

- - - - - - - - - -

On September 8 general rains occurred west of the continental divide in Montana, North Idaho, and in portions at least of Oregon and Washington. Eighty-four hundreds of an inch was recorded at Kalispell, Montana, and forty-eight hundreds of an inch at Spokane, Washington. Normally the rain-fall would be considerably heavier in the National Forests at higher elevations.

Fire guards are being laid off on the National Forests in North Idaho and Western Montana. It is assumed that this storm will close the fire season of 1931 in this Region. Dry weather and troublesome fires do sometimes occur in the fall after the first general rain, but if that should happen this season the fire guard organization will be reorganized to meet whatever danger may develop. Forest executives are taking a chance that no such outbreak of fires will have to be met.

Much clean-up and assembling of fire fighting equipment is necessary on the large fires which were still smoldering inside their lines.

Montana east of the continental divide continues dry and fires are still giving trouble in this portion of the Northern Rocky Mountain Region.

JAMES H. KERRICK, ACCOUNTANT.

By H. I. Loving, Washington.

Upon leaving the office a few days ago, Mr. Kerrick stepped into my room to say that he had just finished 30 years' work in the U. S. Civil Service. It occurred to me that while more than 80 per cent of this time has been spent as a Forest Officer, members of the field force with occasional exceptions know very little of him or the important niche he fills in the Service.

Mr. Kerrick has kept the all-service ledgers since 1907, with especial emphasis on the word "kept." This is a large order when one considers the number of appropriations with which the Service deals, the decentralized nature of the Forest Service organization and records, the complexity of our financial structure and procedure, etc. The infinite detail involved would be overwheming to some men; the degree of accuracy and precision required would be extremely tedious to others. Jim revels in this kind of work. When he gives you a balance or other figures, you know it is right--not that it is most likely right or approximately so, but that it is right.

Absolute accuracy in Service accounting is essential to the realization of the full benefits of our appropriations. Withdrawal accounts must agree with the Treasury; disbursements accounts must agree with the General Accounting Office; and both of these ledgers must agree with the aggregate withdrawals and disbursements of the regional fiscal agents and the departmental disbursing clerk. The various classes of transactions serve to complicate matters since entirely different handling on the books is involved. Fiscal agents payments are handled differently from payments made by the General Accounting Office. Treasury advances require different treatment from collections, deposits, or repayments. Check and cash transactions necessitate different records. Other similar illustrations could be mentioned almost indefinitely.

Every morning Jim turns up smiling--ready for more punishment. I could not attempt to estimate the thousands of figures he has made in his quarter of a century of work for the Forest Service, but I am sure he could supply the exact number had it been known years ago that the data would be called for. What ever the number may be, it is hoped that he will make as many more figures for the Service before he lays aside his pen and pencil and returns to his native hearth in Stockton, California.

REGION 8 IS VISITED BY ASSISTANT SECRETARY DUNLAP

Assistant Secretary R. W. Dunlap spent the week, August 13-19, in Southeastern Alaska familiarizing himself with the problems and work of the Department in that region. He was met at Ketchikan by Assistant Regional Forester Heintzleman and worked north by easy stages to Juneau, the headquarters of all Department activities in Alaska. The trip was made on the Forest Service Launch "Ranger 10," a recently commissioned, very sturdy, seagoing vessel, and a product of the Forest Service shipyard at Ketchikan, which was eight months in building.

Mr. Dunlap looked at timber stands, rafts of sawlogs, sawmills, power plants, forest homesites and homesteads, dairies, special use fur farms, fish canneries, and summer homes, and the many other activities in this region with which the Department and especially the Forest Service is concerned. He inspected the National Forest roads that have been built around some of the towns in the Tongass Forest, and noted the general development which is taking place along them. The almost continuous rain he encountered appeared to be a welcome change from the hot weather of Washington and was not allowed to interfere very materially with his outdoor inspections.

Mr. Dunlap's visit coincided with the peak of the season of commercial fishing, the principal industry of Alaska, when the work and the talk, and yes the odor, all have to do with fish. He seemed greatly impressed with the magnitude of the salmon run and of the cannery operations. Salmon were going up the spawning streams in hordes, they could be seen milling around in the fish traps by thousands, and one cannery visited was operating at the rate of 300,000 one-pound cans of salmon per day. However, a two-hour stretch of fishing with light tackle for the huge and gamey king salmon failed of any results.

Mr. Dunlap met the heads of the Department's agencies at Juneau and left for Seattle on board the comfortable Bureau of Fisheries vessel "Brant", in company with Congressman Simmons of Nebraska. Regional Forester Flory accompanied the Assistant Secretary on the "Brant" as far as Ketchikan. - B. F. Heintzleman, R-8.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER.
>
> Theodore Roosevelt

Vol. XV No.39 Washington, D. C. September 28, 1931

THE YELLOWSTONE NATIONAL PARK FIRE

By J. D. Coffman, Fire Chief, National Park Service

I had barely gotten back to Berkeley headquarters the middle of July for the first time since May when I was called to Yellowstone Park by a fire emergency there. If any of you remember what a hot Sunday July 19 was, you will appreciate one of the reasons I regret the telegram arrived just too late to enable me to catch the Salt Lake airplane from the Oakland airport. So I sweat through the Sacramento Valley on the train and at Reno transferred to the night mail plane for Salt Lake. It was my first flying by night and warm enough across the desert to have been comfortable in the plane without any coat. It was a two-passenger plane and either your elbow stuck in the other passenger's ribs, or else his did in yours, and the backs of the seats did not extend high enough for a good head rest: otherwise I could have had a good sleep; as it was I would doze off until my neck developed a crick. It was an interesting experience to land at night on a lighted field. Our pilot was a former member of the fire patrol in California.

The Boeing people radioed ahead to Salt Lake and the mail plane north was held until our arrival. Before I had learned of this connection I had wired Frank Haynie at Ogden asking him to make arrangements if possible for a Forest Service plane to meet me at Salt Lake, so upon arrival there I had to call him on the telephone at 4 a. m. to ascertain whether any arrangements had been made and learned that the telegram had fortunately not arrived. I am still wondering what became of my message and the good money I paid to have it sent Rush! Anyhow I got Frank out of bed good and early, but his accustomed good disposition was with him just the same.

The plane north made a special landing for me at Idaho Falls at 6:50 a. m. and a couple of young men who had been taking an early swim drove in to the landing field to ascertain what had dropped from the sky, and so saved me a tough walk into town. From Idaho Falls I went by Government automobile to the Snake River Ranger Station, at the south entrance to Yellowstone Park, arriving there late that afternoon.

California is well known for its superlatives, including smoke clouds from brush fires that look like thunder-heads, but I don't believe I ever saw any smoke thunder-heads or smoke-cauliflowers in California that exceeded those that rose the following day from the Yellowstone fire! By reason of the fact that Yellowstone has had no very large forest fires in recent years it had by many been considered more or less "asbestos" like the Inyo and Mono, and so had the Teton Forest just south of Yellowstone, which was having an equally bad fire not many miles distant.

According to the weather records maintained at Yellowstone headquarters, for the weeks preceding this fire the weather was the driest that had been experienced since 1897, and during the run of the fire the relative humidity dropped down to 9 and 12, and oh boy how the fire could run and spot ahead! The Snake River with broad meadows along its banks was insufficient to prevent spotting across the valley. The outside perimeter included approximately 20,000 acres, but eliminating the unburned meadow land and remnant of green forest inside the burn, the net acreage of the burn amounts to about 18,000 acres. The one consoling feature is that the burn is not visible from the roads so that few park visitors will see it, but it certainly put a bad fire scar in the Heart Lake region in the south end of the Park.

I want to pay a well-deserved tribute to Major Kelley and his associates in Region 1 for the excellent assistance rendered to Yellowstone Park during this emergency. Howard Flint was making airplane observations and other Forest officers were already helping to direct the suppression work on the fire lines, and more came in as additional help was requested, for we had approximately 650 firefighters on the fire at the height of the fight. Region 1 also supplied most of our supplies and equipment from their fire warehouses, and in addition 36 head of pack mules from the Missoula remount station, with their packers, and how those boys could pack! They made some of the Jackson Hole packers look like amateurs. Region 1 certainly has the system for handling overhead, supplies and equipment down to a T, and believe me it is well they have for this has been some awful fire season in Montana and Idaho. Regions 2 and 4 also helped us with experienced men and equipment. We certainly would have been out of luck without the fine cooperation we received from each of the adjacent Forest Regions.

A couple of days after Chief Ranger Baggley and I got into Mammoth headquarters from the fire line, we were called to a new fire in the southwest corner of the Park, where a fire, starting in the afternoon, soon jumped the Bechler River and looked like the start of another bad situation. Fortunately a type-mapping crew and a couple of trail workers were in that region and did some good early work and a crew of 50 men was on the fire at daybreak and soon had a line around it, with Pacific pumpers and hose at work extinguishing the fire even before the fire line was completed.

And the next day it rained, so we thought we had a breathing spell and Chief Ranger Baggley was driving me to the headquarters of the Grand Teton Park when we stopped at Victor, Idaho, at a service station and the attendant told us long distance had been trying to find us. I had a premonition as to what that signified.

Fire had jumped the Middle Fork of the Flathead River into the south end of Glacier Park and a serious situation was anticipated. Chief Ranger Baggley and I drove until 4 a. m. to reach a landing field at Belgrade, Montana, where a Forest Service plane from Missoula picked us up early in the morning and transported us to Glacier Park, flying over the fire before landing. It was a very interesting and spectacular ride, especially over the high peaks within and just south of the Park, and also when the ship lost 1,800 feet elevation at one swoop in an air pocket! But we were flying high.

Fortunately, through some very effective night work continued through the morning with an augmented crew, the fire was entirely corralled before the heat of the second day and was held on the Park side to 60 acres, with numerous spot fires.

Pray that you may never have a big fire camp located immediately along the route of a through highway and a main line railroad with many freight car tourists passing through, especially when the camp is near a depot where all the freights stop. The fire camps for the Flathead Forest and Glacier Park were located together, and I guess the boes from all over the region strung in for free meals until the practice was introduced of checking off the men as they lined up for meals.

Region 1 has some very excellent kapok sleeping pockets they are now using for firefighters beds. You fellows will all want to get one after you have seen a sample, and I understand they cost less than $6. Of course many of the transient firefighters were anxious to have one of those beds as a souvenir, and went to all sorts of trouble to hide them through the surrounding brush. The Forest and Park had to maintain a regular guard for some distance up and down the railroad and highway and had to scour the brush in order to prevent theft of bedding.

One night Fire Chief Paige of Glacier Park slept on top of a large pile of beds which were covered with canvas, and pulled a piece of canvas over his bed so that he was not in sight. About 2 a. m. he was disturbed by two men who had climbed on the pile to help themselves and were verbally giving thanks that that so-and-so Paige was not around to prevent their getting away with a bed, when Paige sat up and said "What was that you said about Paige?" and the bed hunters took to their heels!

During this Flathead and Glacier fire a number of spot fires occurred under very suspicious circumstances and we also had a case of sabotage in connection with the use of Pacific pumpers, of which we were using about eight on the fire. One of the itinerant laborers apparently passed himself off as one of the mechanics sent out to see that the pumps were operating properly and would relieve the regular pumpman and take that opportunity to put sand into the gas tank or otherwise tamper with the pump and put it out of commission. When an investigation was started this miscreant disappeared.

Later Glacier Park loaned six pumps to the Blackfeet Forest for use in mopping up a fire and while they were being used there a man appeared at the nearest Forest Service ranger station and represented himself as a pump expert sent out by the Regional Office and told them to thin down the mixture being used in the pumps. Fortunately the Forest Officer called up the Park to inquire about the matter and then the Forest Service started an investigation, but the man had made his get-a-way. His automobile license number, however, had been obtained and I hope the investigation will be continued until the culprit is apprehended. Anyhow the moral of the story is - Don't let strangers monkey with your fire pumps.

The splendid cooperation here between the adjacent Forests, the Indian Reservation and the Park again demonstrates the efficient manner in which all protection agencies can and do work together for the common goal of forest protection.

One of our lookout observers in Glacier Park who has temporary quarters in a tent was stunned and shocked by a lightning strike near his tent a few nights ago. He was assisted down the trail to the road, where a doctor met him and took him to the hospital at Kalispell, where he is making good recovery.

The fire season is still with us at this writing (August 29) and it will be a great relief and a God-send to this region when a good rain arrives.

NOT TO BE OVERLOOKED

By H. T. Gisborne, Northern Rocky Mountain Forest and Range Exp. Sta.

When fire makes a clean sweep through green timber in the Northern Rocky Mountain region, there are certain results which are not to be overlooked, regardless of whether the timber was of high commercial value or whether it was largely unmerchantable, low value, or scrub stuff. Some of these results are brought out strikingly by G. M. Jemison's measurements at Priest River this year.

These measurements contrast certain conditions under a full timber canopy and in the open, representing a clean burn, less than 1000 feet away. They can, with complete justification, be called typical of Before-the-Fire, and After-the-Fire conditions. They are better than actual before-and-after measurements in that it is practically impossible to be sure that the same general conditions prevailed during both before and after periods, whereas in the present case the same days are represented on both areas.

The data given are for the period June 21 to August 20, 1931, and represent extremely dangerous fire weather in this region:

Item	Before the Fire (Full Timber)	After the Fire (No Timber)
Average maximum air temperature:-	77.4°F	83.3°F
Ave. 5 p. m. relative humidity:-	37.3%	27.9%
Ave. max. temp. in surface of duff:-	75.1°F	122.5°F
Absolute max. temp. in surface of duff, one day:-	85°F	148°F
Lowest duff moisture content Ave. for six 10-day periods:-	17.2%	3.9%
Lowest moisture content 2" diam. wood cylinders. Ave. for six 10-day periods:-	10.1%	5.2%

In other words:- burn the timber canopy and you raise the average maximum temperature of the air about 6°; you lower the average afternoon humidity nearly 10%; you heat the duff surface about 47° higher, with a possible difference of 63°; and you dry the remaining duff to one-fourth its former moisture content, for many years thereafter.

Meteorologists may claim that burning or cutting timber does not affect the climate, but the differences shown by the above measurements are certainly important in local weather, in chance of restocking an area with trees of any kind, and in chance of suppressing the next fire on that area. Likewise, it would appear that conditions on areas now bearing open, scrubby timber can be greatly improved if sufficient fire control is provided to permit the timber canopy to close as much as possible. These phases of the problem should not be neglected in considering the need of fire control in any region.

WOMEN'S GROUP HAS LOOK AT LAKE STATES FORESTRY

By Margaret Hayden March-Mount, R. 9

"I go to the god of the wood to bring his word to man."

Up here in the wild but unfrozen assets of the Northland they are asking for the woman's point of view. While it probably hadn't occurred to some that they had views, but only just a few points picked up here and there, this summer found a motorcade of representative and interested members of the Federation of Women's Clubs, headed by Mrs. Edward LaBudde, State Conservation Chairman, being escorted through the North Woods by Al Hamel, of the U. S. F. S., and Duane Kipp, of the Wisconsin Conservation Commission. (The scribe was also present, probably on the theory that a little more knowledge might be a less dangerous thing.)

This adventure of the women to the woods had received the blessing of G. A. Duthie at its very inception. According to his interview, "Women's study of conservation has not been mere pastime, but is resulting in action." E. W. Tinker, Regional Forester, recognizes the 'woman power' in correlating State and Federal activities, in cementing Region-wide forces, and in promoting constructive work.

The women of Wisconsin know Why, and they are Asking How, When, and Where may we help to save these wild land remnants while they are still to be had at a bargain and restore "The Pines that Made the North Woods Famous." An average of 14 members per day began acquiring a point of view, or sharpening up the ones they had. The pilgrimage officially began at Rhinelander, where the President of the Wisconsin Federation and the Chairman of the Committee for the Protection of Roadside Beauty presided at a breakfast, well patronized by local and transient Forest officers, including R. U. Harmon, dean of "worst first" forests in the making, with official bailiwick at Park Falls.

A not unwilling professor on the staff of this feminine school of the woods was H. Basil Wales, Assistant Regional Forester, who left off inspecting to instruct as to nursery procedure, - from seeds from cones from "mammy trees" and squirrel caches, through two years under the kindly sprinkling system, where they are now sprouting up "as thick as hair on a dog," but must be tended as closely as babies lest they be lost in a night. To G. W. Jones, expert-nurseryman, formerly of the Northern Rockies, has been intrusted the responsibility for this new nursery made possible through the generosity of the Kiwanis Clubs of Wisconsin, advancing planting a year in this State.

Our State guide took us through the pioneer places of forestry in Wisconsin, affording a salutary sense of proportion when he pointed out that the State had been in the field since 1911, when they planted Scotch pines for demonstration (and appropriation) purposes; they now have within their protection system some 14,000,000 acres. They welcome Uncle Sam and intensive forestry to lead on.

Except for one morning's delay due to ceremonies in connection with Al Hamel's shining new Nash, our tours just automatically began each day at 9 a.m., whether night had found our party at a limpid lake resort, in a withering wayside hostel, or well within the radius of the cooling zephyrs of Gitche Gumee, meaning Lake Superior.

From detours to dusty plantations to see white and Norway pinelings making a 90 per cent survival in their motorized tractor furrows, we were escorted into fish hatcheries, used also as State Parks, and hallowed by the human care that makes the difference between the misery of burned and burning pinelands, and groves of naturally pruned pines, with their springy needle carpets; or secret trails thru virgin hemlock stands, courtesy of our Federal Guide Hamel. One Junior Hamel was mascot of the caravan, his special interest centering around green and tender frogs over the ponds of Sir Bass. Fish in Wisconsin are taught (in this machine age) to swim upstream despite dams and power projects.

While brief social amenities refreshed betimes, the high-light was probably the outdoor breakfast at Prentice Park, where Guide Kipp paid tribute to the altruistic motives of the ladies, and Mr. Wales told the "Once upon a time" of federal forestry. Assistant Supervisor R. B. McKennan (introduced by the writer) gave facts and figgers.

Besides getting firsthand information to help in forestry programs for the coming year, one objective of the trip was the selection of a Federation Forest, to be dedicated as a George Washington Memorial. A site was selected on the Moquah Purchase Unit, near Washburn, where the first federal planting in Wisconsin was done within 24 hours after title had passed to Uncle Sam. Forester Wales promised the ladies security, soil, and seedlings, if they would furnish the labor; and computed the cost of planting to be 1¢ per member, dividing the whole Federation membership into planting cost of \$2-\$3, or whatever the math. process is. (The province of Wales is next to Scotland, if we recall our geography.)

Projects included brush burning, firelines, roads, trails, telephones, and immense jackpine reproduction, within the recesses of which were seen lily ponds, around which noisy terns protested over nests of younglings. A visit to the Norway pine plantings now transforming the sand plains was followed by a visit to a State R. S. on the Brule River, with its fringe of bracken, wintergreen and groundpine, shaded by tall pines - besides being the former objective of the Coolidge fishing tackle. Blueberry pickers staged a fire and we saw getaway action. And besides explaining the hyphen in Clarke-McNary, and the duet of State and Federal cooperation, Mr. Hamel attuned city riveted ears to the diapason of rills, rivers, and waterfalls

The ladies pledged that federal forestry should not be an orphan, nor recreation a stepchild, but assured we might look for better things and brighter views.

WHY BOYS LEAVE HOME

By R. B. Heberling, Forbes State Forest District, Pennsylvania.

A few days ago a gentleman dropped into the District Forester's office to get a temporary camp site permit renewed for his son, who had been camping at one of our public camps for most of the summer. In the course of conversation he brought up the question - "Just what is the attraction out here that makes our boys like this place so well? I can't understand it. There is Rex, living in a tent, sleeping on the hard ground, doing his own cooking over a dirty smoky wood fire, and getting the biggest kick in the world out of it. He has been up at Adams Falls six weeks now and declares he is going to stay the rest of the summer. His mother and I go up to visit him quite often, and she thinks its terrible for him to live that way and has been trying to coax him to come home but he can't see it. He claims he is having the time of his life so I guess we will have to let him stay. Personally, I can't see the attraction. At home he has his own car, his golf clubs, swimming, can go where he pleases and do as he wishes most of the time, but he would rather be up here than home. Then, too, I can see the biggest difference in him here. At home he is inclined to be rather careless, but here, everything must be just so. You can't throw paper around his tent or throw cigarette butts on the floor - if you do, he tells you about it very quickly and requests that you put them in the proper place. His tent is spick and span in every detail and he keeps it that way."

This is not an exceptional case. We have many other boys who stay the entire summer on our State Forest, and as a rule they are a mighty fine type of American young manhood. Some are rich, some are poor, but all of them find a comradeship in the essential things which eliminates class lines for those who really belong. The others as a rule do not stay long.

What is the attraction that draws and holds these boys to the great out-of-doors? We have no movies, no golf course, no pool rooms, or other modes of entertainment such as are common in the cities. Against this is the pleasure of being "on their own," of living in the great out-of-doors, of being responsible for the minute details of their own welfare, and the tasks that would be drudging at home become a pleasure here. A good part of their time is taken up with the details of camp life, cutting wood, building fires, cooking, cleaning, etc. Then for recreation, there is bathing, hiking, and the ever present mystery of nature with the birds, flowers, and trees. There is always something to do, some new problem to be solved, or task to be done, so the life holds their interest.

Recreation is becoming more and more important each year, at least in this District. Throughout the summer our public camps are crowded and on account of the crowded condition, the overflow sometimes goes to places where camps are undesirable and dangerous from our standpoint. This makes supervision difficult and sometimes impossible. The present camps should be considerably enlarged and improved and several other camps should be established in order to meet the growing demand of the public. - From Pa. Dept. of Forests and Waters Service Letter.

WHO SAID "WILDERNESS"

Four airplane landing fields have been established in the Inyo National Forest to accommodate fishermen, mainly from southern California, who try their luck in the streams and lakes of the high Sierra. The South Fork Meadow field has just been opened and there have been 18 landings at the Monache and nine at the Templeton fields this season. - "Chips From The Forest," R. 5.

AIRPLANES CUT COST OF FREIGHT TRANSPORTATION IN ROADLESS REGIONS

By Roy Headley, Washington

One hundred thousand pounds of freight were transported by plane this summer to a landing field on the head of the southfork of the Flathead River in Montana at a material saving compared with the cost of transportation by the only other possible means, namely, a combination of railroad, truck, and pack mule.

This landing field is in the center of a large Region into which no roads have been constructed. For various reasons it is not likely that roads wll be built. The possibility of transporting freight by plane more cheaply than it can be done by methods which include pack animal transportation removes some of the necessity for building roads for forest protection. Airplane transportation of freight has the very decided advantage of higher speed than can be attained when pack animal transportation must be used for part of the route.

During a recent week, one hundred firefighters were transported by airplane to a landing field in the great roadless region on the west slope of the Bitterroot Mountains in North Idaho. An outbreak of lightning fires overwhelmed the fire guards and trail workers who were in the area at the time and temporary supplementary forces had to be brought in. Plane transportation of these supplementary forces saved days in the control of fires which except for this augmented man-power would have grown to large proportions.

The landing fields being slowly developed by the Forest Service in the interior of some roadless regions in the National Forests will incidentally be of great value to the public in that they can be used for emergency landings by commercial and private planes.

DEAD STILLS BECOME AN AID TO THE WATER WAGON

By L. A. Barrett, R. 5

The old saying that "It is an ill wind that blows nobody any good" is well illustrated in R5 by the good uses to which we have put much of the equipment seized by the Federal Prohibition Agents from raided stills.

Some time back one of the Forest Supervisors conceived the bright idea of securing some of the tanks confiscated at raided stills, the idea being to use them to store water along Forest roads as a reserve supply for our fire trucks.

The plan worked so well that word was passed along the line; and now some Forest officer is mighty likely to be on the job soon after any important raid is made.

Our "collections" to date include 138 tanks, ranging in size from 400 gallons to 15,000 gallons; thousands of feet of iron pipe; a number of gasoline and electric pump motors; and quite recently some 43 dozen brand new 5 gallon cans suitable for use in supplying water to firefighters.

The tanks are both of redwood and galvanized iron. The new ones are used to furnish storage for public camps, summer home tracts, etc., while the used ones furnish a storage supply for stock water, fire fighting, etc.

Practically all of the 138 tanks are now out on the Forests; most of them have been set up; and several Forests through the use of these tanks now have a good reserve water supply in areas where water was formerly scarce.

Needless to say this "salvaged" equipment would have cost thousands of dollars in the open market; and it fills a real need.

WHAT THE FUTURE HOLDS IN STORE

Tomorrow's Business, New York, presents twenty definite prophecies as to what conditions may prevail in 1950, made by the National Educational Association. On the material side, probable achievements by 1950 are listed as follows: 1. A system of health and safety that will practically wipe out preventable accidents and contagious diseases. 2. A system of housing that will provide for the masses homes surrounded by beauty, privacy, quiet, sun, fresh air, and play space. 3. A flat telephone rate for the entire country at moderate cost. 4. Universal air transportation at low cost. 5. A system of paved, beautiful highways will connect every part of the Nation. 6. The further development of school buildings and playfields. 7. The organization of industry, business and agriculture to minimize uncertainty and depression. 8. The perfection of the insurance system to give universal protection from disaster, unemployment, and old age. 9. The extension of national, state, and local parks to provide convenient recreation areas for all the people. 10. The perfection of community, city, and regional planning to make all surroundings increasingly beautiful and favorable to good life. 11. The shorter working week and day, so extended that there will be work for all.

On the social side the probable achievements are summed up like this: 1. Hospitalization and medical care will be available for all who need it. 2. There will be a quickened appreciation of the home as a center of personal growth and happiness. 3. Educational service, free or at small cost, will be available from the earliest years of childhood throughout life. 4. The free public library will grow in importance, leading the way toward higher standards of maintained intelligence. 5. The Nation will achieve an American standard of citizenship which means wholesome community life and clean government. 6. Crime will be virtually abolished by transferring to the preventive processes of the school and education the problems of conduct which police, courts, and prisons now seek to remedy when it is too late. 7. Avocational activities will become richer, leading to nobler companionships and to development of the creative arts. 8. Ethical standards will rise to keep pace with new needs in business and grow in strength until most of our citizens will appreciate the importance of religion in the well-ordered daily life. - R. 3 Bulletin

VALUE OF UNITED STATES EXPORTS AND IMPORTS OF WOOD AND MANUFACTURES OF WOOD, FIRST SIX MONTHS, 1930 and 1931.

	Exports			Imports		
	1930	1931	Per cent decrease	1930	1931	Per cent decrease
Unmanufactured, including sawn ties---	$5,788,253	$3,494,106	40	$6,215,889	$3,979,183	36
Sawmill products-----	45,949,478	25,703,200	44	19,575,109	10,482,968	46
Manufactures of wood-	17,120,799	11,068,683	35	4,349,337	2,444,086	44
Total	68,858,530	40,265,989	42	30,140,335	16,906,237	44

Trade in nearly all items under these main headings of the wood schedule showed a decline, but the values alone, as given in the table above, do not tell the whole story, because as compared with quantity figures values showed a greater percentage of decrease. Of the more than 75 export items shown in the "Monthly Summary," about 8 or 10 showed quantity increases--cedar and hemlock logs; railroad ties; hardwood sawn timber; miscellaneous hardwood logs, not inclusive of ash, walnut, or mahogany; dressed Douglas fir lumber; cedar lumber; hardwood, small dimension; slack cooperage shooks; hardwood flooring. Among these items showing quantity gains, only the hemlock-cedar log item, the hardwood small-dimension item, and the slack shooks item showed value gains. Besides lower prices for articles usually in demand, in many instances a tendency in foreign markets to purchase cheaper grades aided to produce this discrepancy. Lath imports made a small increase in quantity, although at a less value than in the 1930 period--and this was the only recorded item among imports showing any kind of gain, except miscellaneous rattan, willow and bamboo manufactures, excluding furniture of this kind. Rattan, willow, and bamboo furniture imports declined, as did those of wood furniture. Nearly half of imported manufactures, by value, are furniture. - From U. S. Department of Commerce Report.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 40. Washington, D. C. Oct. 5, 1931

FIRE SEASON

The Service-wide fire season does not close. There is intense relief, however, in the cessation for 1931 of the terrific hazard and fire experiences in the Northwest and the Northern Rockies. Having been on some of these fires during the season, I realize the serious situations confronted, the loss in life and property sustained, and the terrific tax upon the ingenuity, will, and physical energy of the men. On every hand no effort was spared to master the situation. The losses have been held below the five-year average. Out of it all has come the conviction that the Forest Service has the will and the ability to master forest fires at whatever odds. While the situation was not so tense in other portions of the west, they also had experiences which put them to the test and which they met in the same masterly way.

I wish I could thank personally each Forest officer and all others who have had part in this season's great accomplishments. The record is one of which all of us can be proud.

R. Y. Stuart

THE FIRST TWENTY-FIVE YEARS ARE THE HARDEST

By Charles S. Brothers

Twenty-five years ago, September 1, 1906, at Washington, my connection with the Forest Service began. I had taken the Civil Service examination for law clerk at Salt Lake City and probably the appointment was offered to me because of the presumption that I was familiar with western conditions. My first duties were the preparation of special use agreements for cabins, corrals, and drift fences. I knew about cabins because cabins, especially negro-cabins were quite a common thing in Mississippi, my native state, but of corrals and drift fences I knew nothing. In Mississippi we had cow pens and horse lots but the local vocabulary did not contain the word "corral," and drift fences were unknown as fences in that part of the country were built to inclose something. Soon I was preparing agreements for all sorts of uses. All permits, even those for cemeteries, contained a clause providing that "No member of or delegate to Congress shall be admitted," etc., but I think the Service would have willingly relaxed that rule in the case of certain members of Congress of that day.

The Service being new, even a greenhorn had a chance, so it was not long before I was handling the more important right of way matters. I would go to the General Land Office and borrow the right of way maps for projects within the National Forests, have blueprints made, and draft letters sending them to the Forest Supervisors, asking for a report and informing the Supervisor in each instance that if the use were for the development of electrical power the Forest Service would "endeavor to induce or require" the holder of the right of way to take out a special use permit and pay certain charges including the "conservation charges," which at that time were creating such a sensation. In some cases we merely endeavored, in others we induced, and in still others we actually required permits to be taken and charges to be paid. That early beginning by the Forest Service has developed into an activity now handled by a five-man organization, the Federal Power Commission.

As early in my career as the summer of 1907 I was sent on a field trip to Colorado and Utah, where I visited several Forests, taking up matters in connection with special uses. In only one or two instances did I get beyond the Supervisor's office. On the Battlement Mesa Forest in Colorado I met Mr. J. W. Lowell, now Supervisor of the Bitterroot. In the summer of 1908 I took a furlough from the Forest Service and got an appointment for six months with the Bureau of Corporations of the then Department of Commerce and Labor, which was engaged in making a census of the standing timber throughout the United States. I worked in Georgia, Idaho, Washington, Oregon, and California. In Idaho I remember meeting Mr. George V. Ring, then Forest Supervisor at Grangeville, Idaho.

While in Washington I continued the study of law, taking a post graduate degree at George Washington University. So in those first two years I not only completed my college education but also acquired some useful knowledge and experience. In 1908 the Forest Service Districts were established and I joined the great exodus, going to Ogden where I handled uses and right of way matters under Mr. Hoyt, then Chief of Lands of District 4. In April, 1909, I was transferred to the General Land Office as Special Agent. Mr. Hoyt said that they had sold me to the Ishmaelites. With the Land Office I worked in Idaho and Utah, with headquarters at Boise and later at Salt Lake City. After a year and a half I was restored to my brethren of the Forest Service by transfer to District 5 as Assistant Chief of Lands under Mr. Barrett, who was then, and still is, Chief of Lands of that District. There I had an unusual opportunity to gain familiarity and experience with pretty much all phases of Lands work, as Mr. Barrett spent much of his time in the field engaged in one of the periodic final boundary adjustments. At that time there was general hunger for land, listings under the Forest homestead law were heavy, and the boundary revisions were generally downward, excluding lands which it was thought would be in demand for agricultural purposes.

The most important activity with which I was concerned in the California District was water power, there being great interest then in the acquisition of rights on all of the important sites within the National Forests of that District and the great Hetch Hetchy municipal water supply and power project, partly on National Forest land, was getting under way. During the latter part of my eight and one-half years in the California District I participated as one of the beginners in the law enforcement activity.

In April, 1919, I was transferred to Albuquerque, New Mexico, as District Law Officer for District 3, where I struggled with Spanish names and grazing trespasses for three years. Just as I was gaining enough familiarity with the Spanish language to pronounce Vigil as Veheel and Jesus as Haysoos I was transferred to Missoula, where with something over nine years to my credit my twenty-five years of service have been completed. Presumably the first twenty-five years are the hardest.

PASSING OF "DICK" IMES.

A few of the old timers in the Service will remember Richard P. Imes, who died in Billings, Montana, on September 19. - "Dick" Imes entered the Forest Service as student assistant September 22, 1900, getting his first "Forestry training" as a cook for a party engaged in management plan work in the Black Hills.

In 1907 and 1908 he was an inspector with headquarters at Denver, and became Chief of Operation in the Ogden office upon its establishment in December 1908. In 1910 he was assigned on his own request, as Supervisor of the Harney Forest, which position he held till he resigned in 1916 to enter the Real Estate business at Sidney, Montana. Early in 1931, he was appointed register and receiver of the Land office at Billings, which position he held at the time of his death.

It was my pleasure to visit Dick in Billings a few days before his death, at which time he commissioned me to remember him to each and all of our mutual friends when I should cross their paths. - For each of them he had a kindly word, and - regarding each some humorous recollection. And so to all who knew him I pass along Dick Imes last word of good cheer, not a whit dulled by the knowledge, which he must have had, that the Grim Reaper waited for him, around the next corner.

FRED MORREL

ABOUT THE FIRE SITUATION

Telegraphic reports received from Regional Foresters show that the area burned over by fires to September 10 inside the boundaries of all the National Forests of the United States and Alaska is 561,680 acres.

Since the annual average area burned over during the last five years is 594,000 acres there is still a chance that the area lost during the calendar year 1931 will be held under the average of the preceding five years despite the extreme conditions encountered during the current season.

1931 has proved to be one of the "bad" fire years and therefore comparable only with the bad season of 1910, 1919, 1924, 1926 and 1929. In 1910 before any such organized protection as that of the present day existed, drouth, low humidity, wind and bad outbreaks of lightning fires combined to make an extreme season in which 85 fire fighters lost their lives, and a total area of nearly 5,000,000 acres burned over in the National Forests. In 1919 the area burned-over was over 2,000,000 acres. In 1924, 825,000 acres were burned. In 1926, 956,000 acres and in 1929, 978,000 acres were lost. The area burned over this year to September 10 is only 68 per cent of the area lost in the most successful of the comparable "bad" years.

Total of fire fighting expenditures and damage to National Forest lands constitutes a good criterion of the success attained in fire control. Damage figures for the 1931 season are not yet available but since the area burned over is so much less than in any comparable year the damage is also expected to be materially lower; and although the fire fighting expenditures have been the largest of any year in the experience of the Forest Service it is expected that the criterion of low total of fire fighting expenditures and damages will show 1931 to be the most successful year of the comparable years.

A total of 7,385 fires have occurred in the National Forests from January 1 to September 10, 1931 against a total of 8,388 during the calendar year of 1930. When the figures are completely analyzed, lightning fires will probably be found somewhat less in 1931 than in 1930, while incendiary fires will be somewhat greater in 1931. There were 1,288 incendiary fires in the calendar year 1930.

Of the 7,385 fires occurring from January 1 to September 10, 1931, all but 355 fires were surrounded and their spread stopped before ten o'clock of the day following discovery. Of the total number of fires reported all but 18 per cent or 1,329 were held to ten acres or less in size. Probably not over 600 fires exceeded 100 acres in size and the number of most disastrous fires which get into the newspapers, do most of the damage and cost the most of the money for fire fighting probably did not exceed 100.

TIME TO CONCLUDE THE PIONEER EXTRAVAGANCE

(From the "Enterprise," High Point, North Carolina)

A developing interest in the conservation of the remnants of the forests and other natural resources of America promises much. We have had three centuries of profligacy; we are beginning to recognize the need not only of frugality in the further consumption of these resources, but of replacement of them as far as that is possible.

Glenn Frank has written a treatise on "Forests and America's Future" which was published first in American Forests. In it he says:

"Socially considered, the conservation movement is symbolic of the fact that, as a people, we are in a kind of twilight zone between the exploitation of the American continent and the enrichment of an American culture, using the term culture in the broad sense of the whole fabric and feel of American life. Conservation means a sustained effort to make good the mistakes of our pioneer forefathers, who were content to take all they could out of their immediate environment and then move on to fresh fields of exploitation. The pioneer left us, not only the physical heritage of denuded and disorderly landscapes, but, what is still more serious, the psychological heritage of a lazy willingness to tolerate denuded and disorderly landscapes. That psychological heritage, I am sorry to say, still hangs like a millstone around the necks of most Americans. As a people, we still think with the mind of the pioneer in terms of the cash returns of a year instead of the civilization of a century. We are challenged to substitute the psychology of conservation for the psychology of conquest. We must substitute stable and scientific agriculture for an unintelligent raping of the soil. We must substitute rational forestry for reckless timber-slashing. We must learn to dress the land we have deflowered. To date, we have been little more than high-pressure salesmen of our resources. We must become high-minded statesmen of our resources. With respect to all of our natural resources we must exalt the common lot above the common loot."

PLAY

Calvin Coolidge said in one of his syndicated articles:

"We are not generally considered as a Nation interested in sports, yet in no other country is the outlay for that purpose anywhere near so great. The yearly expenditure for baseball, football, golf, fishing and hunting is hundreds of millions of dollars. Conservation and propagation of wild life, mainly for the benefit of sportsmen, are a large item in our Government budgets.

"For the last season nearly six and one-half million licenses were taken out to hunt and fish, for which almost nine and one-half million dollars were paid. The manufacture and distribution of sporting goods is a large business.

"All of the varied sports activities take people out of doors where they relax, recuperate, and gain new interests that broaden and sweeten life. They afford an outlet for primitive instincts which otherwise tend to turn in upon themselves, with disaster to the normal development of the individual and at cost to society. Plenty of playgrounds and games is the best cure for youthful delinquency. Plenty of outdoor sports is a wise investment in good citizenship."

ORATORY

By H. N. Wheeler, Washington

In these days of efficiency, the man who is presumed to have an idea to exploit in a public address just gets up and reads a paper for fifteen to thirty minutes in a monotone or in an ordinary speaking voice and is presumed to win full approval of his audience. Or he speaks from notes in the same vein. Now, it is true, that there is not a present demand for Demosthenean, flowery phraseology of words with a hidden meaning. We prefer the blunt, plain statements of facts. But it is equally true that if a message is to be put over and a desired reaction obtained the facts must be attractively clothed. The message must be expressed earnestly, pleasingly, forcefully, and with variation of tone and inflection of voice. The mind can become accustomed to monotonous sounds and close itself to them, - such as a riveting hammer or stamp mill. The message must be uttered as though the speaker meant what he said. When the sounds are varied they demand attention. Of course, the speaker must give out facts, but anyone may recite facts. Those facts must be given pleasingly if they are to catch the ear, hold the attention, and be retained by the listener. Listen in on any radio talk and you will soon see the class of speaker who holds attention. He is not one who has only facts and statistics to dispense, unless he is a great national figure, so that anything he may say has weight, and is, therefore, important. No, oratory is not dead even though it has changed its form. It is necessary to catch the attention of the audience and hold it to the end. This can be done most effectively by use of every method known to the art of public speaking, by speaking distinctly, pleasantly, forcefully, and with proper modulation.

OUR BIG TREE DEPARTMENT

About one-half mile west of the west end of the Carson Spur and on the Carson Pass State Highway across the Eldorado National Forest stands the largest known California Juniper. It is questionable if there is any other Juniper tree in America of equal or greater size.

This giant of the species is 31 feet 8 inches in circumference breast high and slightly over 10 feet in diameter. Although 76 feet tall it does not show its height to advantage because of the large size of the limbs and the excessive amount of foliage.

This tree is very close to a well traveled highway and lies on a south slope at an elevation of over 7,000 feet.

An appropriate sign will be erected on the highway, in order that the passing public may have an opportunity to stop and visit this tree. L. A. Barrett, R. 5

A holly larger than the one in Arkansas, mentioned in the Bulletin, was measured in August, 1927, on Widener Branch, Unaka National Forest, Damascus, Virginia. This tree was very symmetrical and had a d.b.h. of 16.3 inches (diameter tape) and a height of 53 feet (Abney hand level). H. F. Morey, Allegheny For. Ex. Sta

The Southern Station reports finding a cottonwood tree in Mississippi, 3 years old which at that mature age had a height of 20 feet and a diameter of 1.9 inches. Another tree, two years old, was only 10 feet in height. Willows up to 10 feet in height were not uncommon. Of course these trees all occurred on sand bars in the River.

A DUFF HYGROMETER FOR MEASURING FOREST FIRE HAZARDS

A simple hygrometer, for showing the moisture content of the needles, twigs, wood debris, etc., collectively known as "duff," on the floor of the softwood forest, has been designed by the Forest Products Laboratory as an aid in forest fire studies. It can be made by any practical mechanician. The utility of the duff hygrometer is based on the fact that the probability of fires occurring, spreading rapidly, and becoming destructive is related directly to the moisture content of the ground litter in the forest. The instrument is a reliable guide in recognizing and - when used in conjunction with U. S. Weather Bureau forecasts of temperature, precipitation, and winds - forecasting fire weather. It gives a direct moisture content reading without appreciable lag when left inserted in the duff permanently at a field station, or accurate single readings within half an hour when inserted in the duff temporarily.

The operation of the duff hygrometer is based on the fact that rattan changes length to a marked degree with changes in moisture content. One end of a strip of rattan 1/16 inch in diameter is fastened inside the end of a perforated pointed brass tube as shown in the accompanying diagram. The other end of the rattan is attached to a section of fox-tail chain, which passes around a metal cylinder in the head of the instrument and is secured to a small spring which keeps the whole system in tension. The chain is kept from slipping on the cylinder with a small drop of solder.

More detailed instructions for the calibration and use of the duff hygrometer can be found in Department of Agriculture Miscellaneous Publication No. 29, "Measuring Forest Fire Danger in Northern Idaho," by H. T. Gisborne. This publication is obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 20¢ a copy.

MUSKRATS AT HOME AND ABROAD

In late fall and winter in many rural and forested districts of the U. S. and Canada, trapping muskrats or "Musquash" is an occupation of no mean importance. It takes the school boy with his clear eye and "shining morning face" afield at the crack of dawn, while older and more experienced trappers often earn a good living by following a line of traps in localities where these prolific rodents are the main chance. Muskrats are harmless vegetarians at home and always welcome in the forest and waste places. When they work along the streams in cleared localities where riparian improvements may suffer from their tunnels and mining operations, they are not so desirable. Lowlands and meadows may be rendered dangerous to horses and cattle by reasons of holes that threaten broken legs or other injury. Drains and dams suffer most seriously.

Fur trade journals state that at present no animal is as important in the yield of pelts as this humble creature. It ranges over most of North America but is most abundant in the drainage of the Chesapeake Bay and the Upper Miss. region north to Hudson Bay. In habits, the muskrat much resembles the beavers. It is nocturnal., Builds a house and associates in family groups, but does not attempt dams and such engineering feats as are frequent with this larger and more famous fur-bearer.

Muskrat fur is commonly sold as "Hudson Seal." When dyed it also masquerades as mink and sable. It fills a large and widening field in the furrier's art, as it is attractive, moderate in price and durable. Fifty skins are required to make an average size coat. The price for raw pelts in Canada and our northern Pennsylvania counties since 1920, has ranged from $1.11 to $1.84.

About 200 muskrat farms are now in operation. Both furs and meat are sold,---the latter being considered a delicacy when properly prepared and prevented from contamination by the musk glands. The musk secreted by these animals is highly considered as the basis of valuable perfumes prepared in Russia and neighboring European countries. This fact, together with the rising value of the fur, led to the introduction of the animal in Austria in 1906 when four pair from Canada were released at Dobrisch in Bohemia. These lived and thrived amazingly, so it was estimated that at least 2,000,000 were found in Central Europe in 1914. Unfortunately this horde of descendants are reported to be very unlike their Canadian ancestors. They are larger with thin and utterly worthless pelts. They have lost their musk glands and developed carnivorous food habits, so they spread devastation in carp ponds and similar waters; eating fish-spawn, crabs, mussels, and undermining dams, stream banks and retaining walls. All efforts to exterminate them have failed.

The biologist finds the above facts a knotty problem. Did the muskrats in Europe vary so greatly and quickly from type because of altered climatic conditions? Or did the animal hybridize with some other rodent and lose its identity to a certain degree? Anyhow, the muskrat is rated generally as an unmitigated pest in the Old World. In 1916 importation of the animal to Sweden was forbidden by law.

Foresters in Finland have been bolder than their neighbors and stocked several forest districts with muskrats some years ago. According to the Swedish forestry journal "Skogen," the animals wandered about considerably but have held to their customary form and habits. Swedish foresters are now applying for a special permit to stock certain fenced areas experimentally. The vast swamp and glacial lake areas of these countries are hopefully viewed as a splendid habitat for this fur-bearer.

In Pennsylvania we need fear no damage from the muskrat in our forests. It is surely an animal far more worthy of every attention and encouragement than is the questionable and locally destructive beaver.--C. A. Coover and Geo. S. Perry, Pa. Dept. of Forest & Waters Service, Dec. 11

ON THE ETHER

This is a summary of Forest Service activities in connection with the Department of Agriculture "Western Farm and Home Hour" broadcast over the Pacific Division of the National Broadcasting Company, under the direction of R. H. Lamb, Department radio director stationed in San Francisco.

This program is broadcast daily, except Saturday and Sunday from 12:45 to 1:p.m., Pacific Standard time, over stations KGO, San Francisco; KECA, Los Angeles; KTAR, Phoenix; KSL, Salt Lake City; KGW, Portland; KOMO, Seattle; KHQ, Spokane. Of this daily 45 minute program, the Department uses approximately 20 minutes and the remainder is given over to announcements and music by an orchestra furnished by the N. B. C.

During the period January 1 to June 30, inclusive, the Department presented 128 programs for a total of 2,417 minutes on the air. The Forest Service part of these broadcasts was 28 talk periods for a total of 162 minutes, or 6.7 per cent of the total Department time on the air. The average Forest Service talk ran 6.3 minutes. All western National Forest Regions, except R-2, cooperated in this work by furnishing manuscripts for talks in the number as follows:

Region	Number of talks
1	4
3	4
4	5
5	10
6	5
Total	28

To write, edit, type, practice, and broadcast an ordinary 6-minute radio talk, requires from 2 to 4 hours of work time, depending on whether the broadcast is a regular one-man talk, or a dialogue requiring the services of several men. For instance, a special fishing and fire prevention broadcast required the services of two Forest Service officers or speakers, one man to handle water effects, a program director to synchronize talk and music, an announcer, a control man to handle the four microphones involved, and a musical director and orchestra.

Public Relations officers in R-5 not only prepared and delivered their own talks, but edited those sent in by the other Regions and furnished speakers for all such talks. A considerable amount of planning and supervision of Forest Service programs was also done with Mr. Lamb.

We are all agreed on the value of radio broadcasts as a means of presenting forestry and fire prevention to the public, but we question the value to the Forest Service, under present arrangements, of our part of the Department programs as compared with the time and money expended. The Western Farm and Home hour is presented shortly after noon when static conditions are very bad, especially in summer, so that the scope of the broadcast is limited in area. The bulk of the listeners are, therefore, city or urban dwellers. The National

Broadcasting Company estimates that 80 per cent of such listeners are women, to whom the economic side of forestry usually has but little appeal.

Another difficulty experienced in radio work this year was that the Forest Service program was not well lined up, with the result that most of the Regions presented talks of more or less local character, whereas the Department broadcast covered six of the Western States. The report form of presentation, lacking in human interest and personal appeal based on listeners' knowledge and experience, was also a serious fault in many of our manuscripts. The N.B.C. is very particular about the class and style of talks broadcast through its stations, which adds to the difficulty of preparing and editing suitable manuscripts.

DECIBELS

When you lie in the shade of "the murmuring pines and the hemlocks" this summer and like it, just remember that one reason for your pleasure and relaxation is because the trees are only whispering a total volume of 12 decibels as against a total of 57 for your office, 75 for Main Street, 115 for airplanes and general family discussions. By way of explanation, a decibel is a unit of sound, invented by acoustic engineers and measured by an acoustimeter, the whole being due to the development of the radio art and its need for scientific measurement of noise. - From R.5's "Chips From The Forest."

OLYMPIC

Ye Diary. Thys daye spent many hours learning a noble oration prepaired for me by Milord L. Brown, and which I was wont to deliver at a Lumbermens Banquet thys nite, presenting to them the theory, held by some professional Foresters, that to allow greate fires to sweep the woods each year is a deterrent to forest growth. Albeit, doubt if I be elloquent enough to convince them. So don my green cravat and horn-rimmed spectacles and my brazen insignia and by petrol buggy to the lumber camp. There finde a goodly feast prepaired, and the lumbermen assembled. So to dining merrily amid much gayety, when — anon — a greate torrent of rain began falling without, making much din on the roof, and blending with the roaring of the swollen stream. Methinks, thys be not the proper atmosphere for broaching the subject of my speech. So to discoursing upon this and that and whatnot, until a late hour, Albeit, I dined well you may be sure. So passed thys daye. Olympic Pepys.

DON'T GROWL ABOUT FIRE RULES.

"Forest fire precautions are becoming pretty rigid; but no fair person will say, after this year's experience, that they are unjustified.

"What traveler would not willingly be stopped by national guardsmen a hundred times on entering a danger area if he could bring back the burned towns in southern Idaho?

"What motorist would not gladly line his car from front to back with ash trays if it would give back the homes in the Panhandle where the life plans of scores of families were destroyed?

"Who would not cheerfully go to the trouble of securing a permit to enter a national forest or would not carry a shovel and bucket in his automobile if it would restore one of the white pine or fir monarchs which has stood here since the revolutionary war was being fought?

"Too strict regulations? Too much trouble?

"Surely no good citizen, down in his heart, really thinks so."

Region - 1 News.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT *** THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY **** TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV No. 41 Washington, D. C. October 12, 1931

THREE NATIONAL FORESTS FORMALLY DEDICATED

By L. F. Kneipp, Washington

With two of the Great Lakes separating it from the major part of the State, the Upper Peninsula of Michigan is almost a separate political entity, and does surpass some of the New England States in area and some other States in population. The other day, on September 21 and 22 to be exact, the people of the Upper Peninsula did something without precedent or parallel; they joined together in a formal dedication of three National Forests to the mutual welfare of the Upper Peninsula and of the Nation.

One of the dominant factors in the life and progress of the region is the Upper Peninsula Development Bureau which represents substantially all of the communities and industries of the U. P. and is the medium through which they collectively carry out progressive activities of general importance. The Secretary-Manager of the organization is Mr. George E. Bishop, who has guided its operations for a number of years. His fertile mind is constantly engaged in developing projects and movements of public interest and value and little escapes him.

Some years ago it occurred to Bishop and his associates that although the U. P. was once a vast virgin forest of white and Norway pine and embraced millions of acres of productive forest soils upon which a new forest could be produced, it contained no National Forest except about 27,000 acres of the old Michigan National Forest. As soon as the Clarke-McNary law made it possible to purchase lands in the Lake States, he organized a movement to secure the establishment of several National Forest units in the Upper Peninsula; which involved personally conducted tours by E. A. Sherman, Raphael Zon, W. W. Ashe, E. W. Tinker, et. al. over what were believed to be the most suitable areas. Public interest was aroused, data were secured, pledges were made by land owners, representations were submitted to Congress and the National Forest Reservation Commission, and in 1928 the Marquette, Mackinac, and Keeweenaw Purchase areas came into being.

Since that time the work of acquiring lands has progressed rather rapidly, partly through purchase under the Clarke-McNary law and partly through exchanges with the State. Out of a gross area of 274,910 acres and purchasable area of 235,596 acres in the Marquette, the U. S. now has 103,992 acres. The gross area of the Mackinac is 271,014 acres, the purchasable area 246,380 acres, of which the U. S. owns or is acquiring 94,196 acres. In the Keeweenaw area, 79,370 acres is now under Federal control, out of a gross area of 252,521 acres and a purchasable area of 204,236 acres.

In view of the considerable areas in Federal management the formal establishment of National Forests was warranted and last January and February three proclamations were signed by President Hoover; one dated February 12, creating the Marquette; another dated January 16, establishing the Mackinac unit as the Hiawatha National Forest and the third dated January 27, proclaiming the Keeweenaw Unit as the Ottawa National Forest.

This having been done, it occurred to Mr. Bishop that the next step should be a formal dedication of the National Forests by the citizens of the Upper Peninsula. Leading citizens were pledged to cooperation, contributions for the erection of three substantial and impressive monuments were secured; the participation of all counties and communities was solicited, and plans for the ceremonies were formulated.

The Ottawa Forest was dedicated on September 21. About 200 adults and 300 school children participated and a roll call disclosed that every last county in the Upper Peninsula was represented. Speeches laudatory of the Forest Service were made, songs were sung, a beautiful monument was unveiled and, as in the other two dedications, records of interest to future generations were deposited and sealed in a secret chamber of the monument. The entire ceremony was characterized by sincerity and solemnity and was distinctly impressive.

The next forenoon the monument on the Hiawatha Forest was dedicated with similar exercises, participated in by the American Legion, and including also the dedication of one of several Washington Bi-Centennial Memorial Forests. Here also was a gratifying attendance both of adults and school children and a comparable demonstration of sincere interest and friendly concern in the success of the new National Forest. Each person attending was afforded an opportunity to plant a tree and the jubilant remarks of small boys and girls and of elderly matrons, after they had planted their trees, were both interesting and amusing.

The third dedication, held on the afternoon of September 22, on the Marquette Forest, was at a point remote from any community, yet a surprising and gratifying attendance was present. Here, too, the ceremony included the dedication of a Washington Bi-Centennial Memorial Forest, and also a mock trial of an alleged fire-bug, the principal merchant of the nearest town, who thoughtfully had set up a picnic lunch for all present, as well as the planting of trees by each person attending the exercises, each tree being designated and the name of the planter recorded by attentive Boy Scouts.

The monuments are of native rocks and ores and very artistically executed. They are about 15 feet high and in form are a compromise between a pyramid and an obelisk; each bearing a neatly executed bronze tablet containing the name of the Forest, the date of its establishment by the President, and the names of the Counties in which situated. On the Kenton monument the County names are also borne by bronze medallions set in the sides. In deference to the Indian character after which it is named the Hiawatha monument bears some resemblance to a teepee.

Busy men of affairs came long distances to attend the dedication, schools were recessed to allow the children to take part in the exercises and the town of Munising declared a general half-holiday. A real interest was manifest at each dedication and it seems evident that in its future administration of the three Units the Forest Service will have the friendly support and cooperation of all the people with which it has to deal. Zon, Tinker, and Kneipp spoke on behalf of the Forest Service and Ramsdell and Herbert for the two forest schools of the State, but the obviously most popular and appreciated speeches were the snappy talks of Supervisor Bean and Rangers Doering, Roemer, and Brandner, who, with their assistants, seem to be mighty popular with the local folks, and who have that rare quality of brief and concise speech common to those who deal in actions rather than words.

A PLEA FOR THE PRAIRIES

By P. A. Thompson, Cascade

The west slope of the Cascades is a heavily timbered country. There are trails on the Cascade Forest where one can ride from early morn till late at night without once riding into an opening, and I have tied my horses to a tree at night, hungry, except for a few oats, more than once because there wasn't a grassy spot for miles around. But on many other trails in this timbered type of country we find "prairies." A "prairie" is any open, grassy spot in the timber; it may be as small as five acres and it may contain a thousand acres; it may be comparatively level and it may average 40 per cent slope, but every "prairie" I have seen on the Cascade Forest supports grasses. They are the guide beacons on our more attractive trails. In them we pitch our tents, let our horses graze, and from them we get our only glimpses of the country we traverse. Our guard and patrolman stations, a large number of our trail shelters, and all of our favorite camping spots are on or near some prairie.

In another twenty years - not much longer, most of the "prairies" will be gone. Encroaching reproduction is fast claiming them. Our little spots of horsefeed are being shaded out. What caused the "prairies"? I do not know - probably repeated fires - but I do know that strict fire protection and grazing are giving the trees their chance to reclaim these openings and steadily and surely their areas are shrinking year by year.

Within the past year I have ridden the trails of the Cascades with three old timers whose combined years of service approximate seventy and all of them have ridden these same trails and camped on these prairies for the last twenty years: Rangers Smith Taylor and C. B. McFarland and Dee Wright. And each of them has pointed out to me innumerable instances of prairies reclaimed by the trees, of camping spots and horsefeed which have disappeared, and of openings, from which one could glimpse great stretches of country, closed.

Recognizing the great value of these openings as camping spots, as lookout points, as grazing lands, as attractions in a land of heavy timber - these men have in the past declared war on the encroaching reproduction and have threatened to cut some of it in an attempt to preserve these openings which comprise less than one per cent of our total acreage. But the hand of authority has stopped them! They have been told that such practice was not forestry. And year by year these already small areas are being reduced by encroaching tree growth.

It may not be forestry to preserve these open plots but it certainly is good land management to do so. Would you have the farmer use every square foot of his soil for crops, or would you permit him a little plot of ground for a lawn and a flower garden and a play ground for his children?

The "prairies" comprise a very small portion of our acreage. It is my firm conviction that they are far more valuable in their open grassy state than if covered with timber. I am also convinced that not many years hence we will wish, regretfully, that we had, wherever possible, used our axes to keep them free from encroaching reproduction.

It is still not too late to save many of them - some of the more valuable ones - if we get at the job. A few minutes work now and then will keep them open. Good land management calls for a judicious use of the axe as often as it does for the planting hoe. We should take whatever action is necessary to put each piece of land to its highest use even though it means slashing some reproduction now and then.

If we don't need the grass for our horses and mules, who knows but what we'll need "prairies" for landing places for our autogiros of the future!

THE HEWITT REFORESTATION PROGRAM FOR NEW YORK STATE

(Extract from a New York State College of Forestry leaflet)

While the subject of conservation is relatively new, we have had the benefit of several decades of experience, particularly in forestry. We have developed a recognized profession of forestry which gives due cognizance to the aesthetic and recreational benefits as well as to those of a more material nature. No forester would advocate cutting timber on any beauty spots or along streams, lakesides, or highways where the forests should be maintained for their more important recreational values.

The purposes to be served by the Hewitt Amendment are very broad and constructive. This State-wide project will bring the widest possible benefits to the people in all sections of the State where abandoned farms are to be found outside the Adirondack and Catskill Parks. Among these advantages may be cited:

(1) Recreation. These newly planted forests will mean a series of beauty spots all over the State where people may go for rest, health, and enjoyment if the Adirondack and Catskill Parks are too remote for their purposes.

(2) Influences on Water Flow. Forests insure a fresh, clean, and continuous flow of water for drinking purposes -- as well as maintain the water table for the supply of agricultural land. This is vital to the farm. Forests insure water power and the maintenance of proper water levels in our reservoirs, navigable rivers, lakes, and even our favorite fishing brooks.

Forests prevent erosion and the silting of streams.

(3) Protection Throughout the State for More Birds and Game. We must get away from thinking in terms of more and better wild life only in our mountain sections. More planted forests in every section will further the increase of game birds and animals. Bird life is important to agriculture.

(4) Increase the Beauty of the State. Aesthetic values are coming to be more and more appreciated. Our uplands and hills should be covered with an attractive woodland. Remember what has happened to deforested Spain, Palestine, and China.

CONTINUOUS FORESTRY PROGRAM IS ESSENTIAL

It has been objected that we should not now plan to cut these plantations. A planted forest, however, cannot properly develop without a plan of management, and this involves thinnings of certain periods, otherwise the trees will be stunted and the forest may become more like a brush cover than a forest. Such a forest is worth very little for recreation and nothing commercially.

In view of the fact that we already have an unprecedented area exclusively for park purposes, New York would not be justified in going to the great expense of purchasing and reforesting idle land without a definite plan for management, without knowing whether the land is going to be used profitably. No other State and no other country has ever dedicated such a large part of its forest land exclusively to recreation and in proportion so little to the production of a definite crop yielding annual returns to the State. Almost one-third of the forests of the State are now devoted to recreation.

Foresters are in favor of the Hewitt Amendment because it means forest management, which in turn means the harvesting of trees scientifically and the perpetuation of the forests. If the State cannot look forward to the systematic harvesting of mature timber and management of these plantations it cannot afford to reforest lands at a cost of $20,000,000.

Material benefits should not be ignored. We shall always need wood. We are using 28 times as much wood as we are now producing in the State. Over $40,000,000 is paid annually in freight alone to bring wood in from other States. Wages mean employment -- and that means prosperity and happiness to many thousands. Over 100,000 wage earners have been lost to our State in recent years. Prosperous industries mean steady and continuous employment. These forests will bring employment and revenue to every community in which they are located.

HOW FAST CAN WE LEARN?

What Have We Learned From Plow Units?

1. As Reported

A logging engineer said, "Don't send plow, - waste effort - plow can't be used." Fire assistant said, "Keep your plow, - land to rocky." One old-time scaler said that he would eat a hat "if a plow could do any good for itself up 'thar in them air' rocks." The plow unit went in, hit the line, and began to turn out trench at a speed that made all the doubters feel like crawling into a hole.

2. As Heard on the Wire

Regional Office man to dispatcher: "How many miles of perimeter?"

"Fifteen," comes the reply.

"How many men?"

"Two hundred," snaps back the dispatcher.

"How many plow units?"

"Two," comes the answer.

"How many in actual use?"

"None," reports the wire puller.

"Why?"

"Fire boss says can't use plows."

"What tell," says the R. O. plow enthusiast. "We'll send down a plow expert."

Plow expert went and returned, and in due course reported that the job was the best plow chance of the season. Land rolled up before the moleboard as in a corn field over in Iowa.

3. As it Happened on the Fire

"Plow outfit's hung up under a bit of steep land."

"Why here?" inquires the inspector.

"Land too steep. Can't get horse over. Ground too rocky up ahead. Can't plow."

Inspector inspects, returns to plow man.

"Let's go. No difficulty to maneuver horse up the bluffs."

Started. Went. Reached top without difficulty. Put plow in ground. Trench began to roll out. Hodag men stood by with bulging eyes. All but 4 or 5 out of 45 moppers-up turned axemen. Then could barely keep right-of-way cleared for plow units of two men and horse.

All kinds of excuses for not using plows, based upon lack of knowledge, have been heard but few have held water when a man with the will to do undertakes the doing. The outfit has turned out chains of line in a given unit of time, where man power had been turning out one-quarter as much or less, and this in places despite a mass of opinion that plowing of trench was impracticable. One plow unit this year on typical soil and loose rock on average topography plowed 215 chains of held trench or about 2-3/4 miles, and was held up about 1/3 of the time awaiting a clear right-of-way.

We have learned that to spend time and money digging trench by hand where plows can be used and can be made available is wasteful and inexcusable evidence of poor management and planning. And what is more, we have learned that plows can be used effectively, contrary to opinion of experienced woodsmen and firefighters, under so many different conditions that henceforth if we are going to be in position of defending cost of fires, plow units must be ordered sent to fires and put to work with the first axeman to hit the first blow in the swamping job. This has been done with success on an encouragingly large number of fires this season by a lot of different officers. Nevertheless, the season's experiences indicate that too many late deliveries of plow units have occurred; too many instances are current where after their arrival no organized attempt was made to use them. Clear it is that next season we must capitalize fully upon what we have gained this and other years. How? The answer is plain. - From R 1 Bulletin

YE EDITOR DISCOVERS

A recent demand for a 30 per cent reduction in the fees charged for grazing on the National Forests having been made by certain interests upon the Department, Secretary Hyde wired on August 22 to 81 Governors, Senators, and Representatives in the public land States explaining the situation and giving the reasons why the Department had disapproved any reduction or remission of fees and asking for their opinions on the subject. Of the total number of persons addressed, 23 failed to reply; 18 were willing to leave the matter to the judgment of this Department; 13 were actively opposed to any reduction; and 27 favored the reduction. After full consideration of these replies and the facts and circumstances in the case, the Secretary decided that the interests of the public will be served best by making no reduction in the grazing fees on the National Forests and gave the following reasons for his decision: (1) "There is no unanimity of views expressed in the replies to my wire. A liberal interpretation of the replies received, however, indicates a plurality either opposes any change in the fees, or feel that the matter should not be disturbed. (2) About 60 per cent of the permittees have paid their fees in full. Should a reduction be made these permittees would be entitled to a refund. Under the circumstances existing the Department has no legal authority to make such refunds."

The Secretary announced further that his decision will in no way interfere with the usual procedure of the Forest Service in making refunds in cases where the range has failed to supply feed for livestock for the season stated in the permit, because of drought or other circumstances beyond the control of the permittees.

- - - - - - -

Major Stuart in reporting at a recent Service Meeting on his field trip this summer, a month's time of which was spent with Secretary Hyde in Regions 2, 3, 4, 5, and 6, said in part as follows: While with the Secretary they covered about 5,000 miles by auto, and had some train travel; so they saw a good deal of country. They saw various forms of land use and occupancy in the National Forests and Parks; and had contacts with the grazing, timber, fire, research, and public domain problems. The Secretary did not see as much of the actual fire organization as the Forester would have liked. He had hoped to cover that phase of our work in Region 1 but more urgent matters compelled him to abandon his plan to visit this Region. However, the many contacts the Secretary made with our problems will be very helpful to him and to the Service in further relationships.

The Forester was in Regions 1 and 4 when they had their largest fire outbreaks. He was on the Kaniksu fire and the Deer Creek fire on the Pend Oreille-Kootenai; and was in Region 4 while the Salmon River and Boise fires were going. These two Regions have had the hardest fire struggle, although this is not saying that the other Regions, with the possible exception of R-3, have not had a serious time. The season was unusually severe in sustained low humidities. There was a stretch of 52 days of sustained low humidity in Regions 1 and 4, creating a very serious fire hazard. Considering the season and the extent to which fires spotted, the work of our organization has been wonderful. In many instances it was but a few hours before a fire would spread over miles of territory. The Kaniksu fire, which started about 11 in the morning at Freeman Lake, had advanced 16 miles by that night, burning out about 30 ranches. Had it spent itself in that time it would not have been so bad, but it continued to spot. The first thing to do as a result of that 8 hours was to construct a fire line of 70 miles, which was done from Tuesday morning to Friday night, in that rough Kaniksu country. The line held exceptionally well. In the Deer Creek fire a similar situation developed but the men were not so successful in determining and controlling their outer perimeter in relation to spots.

Everywhere the organization faced its job with determination, and the speed with which they got men and equipment to the fires was splendid and heartening. The season has proved conclusively that we do not have to wait for rains to control fire, though we may have to wait for rain to extinguish the last spark. The spirit of going after fires hard and getting control of them in the minimum time was present all through the Service. Had it not been for that it would have been a very disastrous season. While we have not yet the total figures, our loss in acres is well within the 5-year average, which is quite remarkable. The Forester said that in spite of the fact that the season has as yet by no means closed, we have every reason to be proud of our organization because it has done a perfectly splendid piece of work.

- - - - - - -

Dedication of the Memorial recently erected at Marias Pass, Montana, to the late Theodore Roosevelt for his leadership in forest conservation will take place on Sunday October 25. The Memorial, a granite obelisk more than 60 feet high, stands on the Theodore Roosevelt International Highway at the boundary between the Lewis and Clark and the Flathead National Forests, about 75 miles east of Kalispell, Montana.

Five members of the Roosevelt family, Governors J. E. Erickson of Montana and Gifford Pinchot of Pennsylvania, Montana Senators and Representatives, and three former Federal Foresters are among those to whom special invitations have been issued by the Forest Service to attend the unveiling and dedication. It is expected that Governor Erickson will deliver the address of welcome and that Associate Forester Sherman will accept custodianship of the monument on behalf of the Forest Service. The program, which starts at 11 a. m., will also include lunch, cooked by Forest Service "chefs" using firefighters' recipes and menus and served cafeteria style. Approved methods of building camp fires and of fighting forest fires will also be demonstrated.

- - - - - - -

Data recently compiled from reports submitted by the cooperating States and National Forest Supervisors show that there were 190,980 forest fires in the United States during the calendar year 1930, of which 70,832 occurred on protected lands and 120,148 on unprotected areas. The total area of protected land burned over was 5,809,320 acres, while 46,457,140 acres of unprotected land suffered from fire. Of the forest area protected the area burned was less than 1½ per cent. The estimated damage was $65,968,350, not including damage to young growth, wild life, watershed values, and other intangible values which could not be measured in dollars and cents. Of the total damage, $14,957,280 occurred on protected lands. On unprotected lands, it is estimated that the damage was $51,371,070.

Careless smokers were responsible for more fires and greater losses than any other cause. On protected areas, for which more complete data were available, smokers caused 17,460 forest fires, or more than 20 per cent of the total number reported. In the last five years, deliberate woods burning and incendiarism have been responsible for 17 per cent of the fires; careless or uncontrolled debris burning caused 12½ per cent; lightning caused 9½ per cent; railroads 9 per cent; campers almost 8 per cent; a little under 4 per cent were traced to lumbering operations; miscellaneous causes accounted for 9 per cent; and the cause of the remainder could not be traced.

- - - - -

"Little men would be discouraged if they could see themselves in their true light. So conceit was sent into the world--

"God's great gift to little men." -- Bruce Barton

THE SCOUTS' GOOD TURN

Here's what I dragged out of a boy, Taylor Alward of Redding about 15 years old, son of Leslie Alward who has the Redding-Eureka stage route.

The boy, Taylor--who was driving the stage in which I was a passenger, happened to mention that he helped put out a fire recently--we were talking about a fire on the Trinity.

He said that he and four other boys were swimming in the aqueduct near Anderson about the end of July. They found some Indians fishing illegally at the dam for salmon. On arrival of the boys the Indians beat it in cars. One threw out a burning cigarette which started a fire along the road in dry grass, weeds, and brush. When the boys saw the smoke, they went barefooted and in their bathing suits, headed by Alward, to the fire. They put it out with the aid of an old sack and an old hat which they found nearby and which they soaked with water. There was a stiff wind. The burnt area was about 20 feet across.

Being interested in knowing how the boys came to take the initiative in putting out this fire, I asked Taylor: "How did it come that you boys went to the fire and put it out?"

He said: "Why, we're Boy Scouts."

Everest: Shasta. From R. 5 Bulletin

DEER MORE AFRAID OF FIRE THAN OF MAN

Bert Mecham, lookout on the Challis, sighted smoke as it curled up from a small fire in the canyon below him. He rushed down from his glass house on Pinon Peak to immediately quench the blaze, but it was in July and some bad fire day. The curling smoke soon blew into raging flames and the lookout found himself and dog surrounded. They sought sfaety on a small barren point and huddled near the ground to avoid as much of the heat and smoke as possible. When the worst had passed, he arose and was surprised to find that he had company -- twelve deer had joined the circle. Mr. Mecham said the deer paid practically no attention to him or the dog, but nervously milled about watching the hideous Loon Creek fire, as it raced up the mountain. - R. 4 Bulletin

LATEST METHOD OF ROBBING RANGER STATIONS

Someone set three fires in the brush three miles from the Coxey Ranger Station, Big Bear District, and while Patrolman Mohn was busy putting them out, the incendiary entered the Ranger Station and got away with a complete outfit of clothing--boots, suit, a shirt, a Winchester rifle and an automatic pistol. A watch and other valuables were not taken.

Three men were apprehended, made to help on the fires and were held in the County Jail 48 hours on suspicion of the deed but no concrete evidence could be found to prosecute them.

Coxey Ranger Station is 18 miles from the Bear Lake Settlement, in a sparsely settled country. Last year, while on patrol duty about 10 miles from his station, Patrolman Hooma was murdered by a moonshiner who is now serving 7 to 10 years in San Quentin. Plummer: San Bernardino. R. 5 Bulletin

A CORRECTION

There was a typographical error in the article entitled "Thirteen Annual Fires in the Longleaf Pine Type," which appeared in the Service Bulletin of September 14, 1931. In the table the "average annual height increment" on the "unburned area" should have been 2.38 instead of 31.0.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 42, Washington, D. C. October 19, 1931

FORFEITURE VERSUS NON-FORFEITURE RETIREMENT ANNUITY

By H. I. Loving, Washington

Many questions have been raised by Forest officers relative to the essential differences between the forfeiture and non-forfeiture annuity plans provided by the Act of May 29, 1930. Most of the points of doubt were cleared up by Department memorandum of May 12, 1931, issued as P. B. A. circular No. 171. However, apparently a little confusion still remains, which can probably be met best by considering a few hypothetical cases. Eight simple examples are given below for the purpose of illustration.

(a) Assume that a Forest officer was appointed at $1600 per annum effective July 31, 1900, his 32nd birthday, and rendered continuous service at the same salary for exactly 30 years, or until he reached his 62nd birthday, at which time he retired from active duty.

(b) Assume the rate of pay, age at appointment and retirement, and length of service to be the same as in (a) but advance the date of appointment to July 31, 1926, and the date of retirement to July 31, 1956.

(c) Assume that a Forest officer was appointed at $2,000 per annum effective July 31, 1900, his 32nd birthday, and rendered continuous service at the same salary for exactly 30 years, or until he reached his 62nd birthday, at which time he retired from active duty.

(d) Assume the rate of pay, age at appointment and retirement, and length of service to be the same as in (c) but advance the date of appointment to July 31, 1926, and the date of retirement to July 31, 1956.

(e) Assume that a Forest officer was appointed at $3,000 per annum effective July 31, 1900, his 32nd birthday, and rendered continuous service at the same salary for exactly 30 years, or until he reached his 62nd birthday, at which time he retired from active duty.

(f) Assume the rate of pay, age at appointment and retirement, and length of service to be the same as in (e) but advance the date of appointment to July 31, 1926, and the date of retirement to July 31, 1956.

(g) Assume that a Forest officer was appointed at $3,600 per annum effective July 31, 1900, his 32nd birthday, and rendered continuous service at the same salary for exactly 30 years, or until he reached his 62nd birthday, at which time he retired from active duty.

(h) Assume the rate of pay, age at appointment and retirement, and length of service to be the same as in (g) but advance the date of appointment to July 31, 1926, and the date of retirement to July 31, 1956.

Following is a table based on the foregoing cases showing comparative values, which may afford some members approaching retirement age a better basis for choosing between the Non-Forfeiture and Forfeiture plans:

Employee (all men)	Personal Credit Fund	Non-Forfeiture Plan			Forfeiture Plan		
		Pur. Annuity	Provided by Govt.	Total Annuity	Pur. Annuity	Provided by Govt.	Total Annuity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a)	$ 559.71	$ 46.98	$1,153.02	$1,200.00	$57.38	$1,153.02	$1,210.40
(b)	2,660.72	223.33	976.67	1,200.00	272.78	976.67	1,249.45
(c)	700.46	58.79	1,141.21	1,200.00	71.81	1,141.21	1,213.02
(d)	3,456.30	290.10	909.90	1,200.00	354.35	909.90	1,264.25
(e)	1,051.20	88.23	1,111.77	1,200.00	107.77	1,111.77	1,219.54
(f)	5,461.95	458.45	900.00	1,358.45	559.97	900.00	1,459.97
(g)	1,261.55	105.89	1,094.11	1,200.00	129.34	1,094.11	1,223.45
(h)	6,663.23	559.28	900.00	1,459.28	683.13	900.00	1,583.13

Column 2 above covers the total salary deductions plus 4 per cent interest compounded annually, except that beginning July 1, 1930, the sum of $1.00 per month has been withheld from the personal credit account and credited to the Tontine Fund. Columns 3 and 6 show the annuity that the amount the employee has in the Personal Credit fund will buy for the remainder of his life under the two plans. Excluding the small Tontine fund, columns 4 and 7 give the amounts provided by the Government annually toward payment of the total annuities set out in columns 5 and 8. For employees "a", "c", "e" and "g" a striking contrast is afforded when the large portion of the total annuity paid from Government funds is set opposite the comparatively small sum paid from the employees' salary deductions.

Columns 4 and 7 carry a minimum of $900 and a maximum of $1,200 in the case of employees who served 30 years or more and received salaries of $1,600 or more per annum during any continuous five-year period. Only when the Purchased Annuity exceeds $300 can the total annuity under the Non-Forfeiture plan amount to more than $1,200. To earn a purchased annuity of $300 would require a Personal Credit of $3,574.20 under the Non-Forfeiture plan and $2,926.20 under the Forfeiture plan. Deductions at 3½ per cent plus interest from annual salaries of approximately $2,130 and $1,810, respectively, for 30 years would produce the requisite personal credits.

Discussing employee "a", it will be noted that only 10 years or 1/3 of his service was rendered after August 1, 1920, when the retirement law became effective and when salary deductions were first made. It should also be remembered that deductions were made at the rate of 2½ per cent of the basic salary for the period August 1, 1920, to June 30, 1926, and at the rate of 3½ per cent from July 1, 1926, to date. This employee accumulated a credit in the retirement fund during the 10 year period of $559.71.

Should he select the non-forfeiture or refund plan of annuity upon retirement, his savings of $559.71, multiplied by the governing factor fixed by the board of actuaries for the 62 year age group would give him a purchased annuity of $46.98; should he select the forfeiture plan, the governing factor fixed by the actuaries being slightly higher, would entitle him to a purchased annuity of $57.38. The difference between the two plans in the purchased annuity being only $10.40, making the total annuity under the non-forfeiture plan $1,200 as against $1,210.40 under the forfeiture plan, a difference of less than one per cent. This percentage rate becomes greater as the credit of the employee increases as will be noted from some of the other examples.

It will require nearly 12 years of retirement payments under the Non-Forfeiture Plan for employee "a's" Personal Credit Fund balance to become exhausted. Should his demise occur before the portion of the annuity payments chargeable to the Personal Credit Fund equal his total savings, the balance of the $559.71 remaining is refundable under section 12 of the Act. For instance if death occurs after two years, a deduction of $93.96 ($46.98 for each year) would be made from the total savings and the balance of $465.75 paid the estate. On the other hand, if the employee selected the Forfeiture Plan and died two years following retirement, the balance of $444.95 ($559.71 less $114.76) could not be returned to his estate.

The increase in annuity to employee "a" under the Forfeiture Plan is so slight that it would obviously be to his advantage to select the Non-Forfeiture plan with refund of the unexpended balance in the personal credit fund. Employees who entered the Service August 1, 1920, or subsequently and were thus enabled to accumulate a considerable balance in the Personal Credit Fund will find a larger difference in their annuity under the Forfeiture Plan. However, in deciding between the two plans upon retirement they should not lose sight of the fact that almost twelve years must elapse before the refundable balance in the Personal Credit Fund is entirely wiped out under the Non-Forfeiture plan.

While the discussion in the preceding paragraphs deals largely with employee "a's" case, the principles involved are the same and apply alike to all cases. There are differences in the annuity tables percentage factors as between men and women employees, as between age and disability retirement, and in other respects, which cannot properly be set out in a brief resume of this character.

OUR RANGER STATIONS - LANDSCAPING

By Francis E. Williamson, Jr., Mount Hood

It is often carried back to us that our Ranger Stations look as though,-like Topsy, they "just grew." How true this is when we stop to consider that many a station had its beginning as a guard cabin; later a barn was added, then a tool shed. All added for their utility, but with little idea of organization or related use, let alone beauty.

We are beginning to use landscaping principles in our road and trail locations, and thought is given this subject in camp ground and other recreational surveys. But, except where the Ranger is personally interested, little effort is spent upon a plan for the most efficient and usable ranger layout.

It is known that no station can be developed with all its buildings, driveways, fences, etc., in one season, but there is little to prevent a comprehensive plan of existing, proposed, and condemned improvements.

Such a plan should stress related utility. It should show just how much of the station grounds are to be set aside for the private use of the Ranger's family and just what portion is to serve the various needs of the Forest Service work, such as office, fire tool warehouse, improvement warehouse, and the many other buildings necessary under the greatly increased activities of a Forest Ranger. Last, but not least, such a plan should provide for the planting of trees, shrubs, and flowers, so that aside from the Ranger's own garden, a definite, permanent, and progressive beautification of the station grounds should go forward regardless of the personal whims of the then resident Ranger.

Much of this planning can be done by an interested Forest officer on each Forest, but as time brings forth more highways, more recreation, more use, some one, or more than one, officer with a knowledge and appreciation of forest landscaping will be a necessary addition to each Forest Region.

A BARK BLAZER FOR MARKING TREES

By Richard E. McCardle, Pacific Northwest For. Exp. Sta.

It is often desirable in sample plot work to mark the trees in some temporary fashion so that no trees will be missed entirely or measured more than once. For this purpose, yellow marking crayon is satisfactory if the trees have smooth, dry bark, but the crayon is not satisfactory for use on rough bark or when the bark is wet.

The device described here is used to "check" the trees as they are measured by scraping one or more broad lines in the bark. This tool resembles the ordinary timber scribe, but makes a very much wider mark. It was first made by the writer in 1924, but has been used by a number of others since that time with complete satisfaction. This note is written in response to inquiries concerning the design of the tool.

This bark blazer consists of a piece of three-eighths-inch spring steel rod bent to form an oval handle with the one projecting end turned back and flattened into a blade about one and three-fourths inches wide. The total length of the tool is about four and one-half inches. The attached drawing indicates the size and shape of the blazer. (The handle ordinarily is wound with tape to improve the holding qualities.) Any blacksmith can make one of these blazers at a cost of a few cents.

Aside from the advantages over crayon in being adapted to wet bark and to very rough, flaky bark, this blazer makes a mark large enough to be seen from a considerable distance and eliminates the expense and bother involved in the replacements of crayons.

DALE MEDSKER ALIAS HAROLD STARR

By Edith G. Kiene, R. 2

This young man, claiming to be only 18 years old (although some reports give him the benefit of 23 years) traveled pretty fast in Region 2 during the last week of August. We first picked up his trail in Cody, Wyoming, on August 24-31 where as Harold Starr he passed checks on the National Bank of Lewistown, Montana. He had no badge but showed papers identifying him as a Forest officer. He stated that he was mapping and on his way from Lewistown, Montana, to Flagstaff, Arizona. He was traveling in a Chevrolet coupe.

His next stop was Sheridan, Wyoming, where he was picked up by the police for driving without a license. He was released when he presented a permit purported to be signed by someone as Acting Supervisor in the Forest Service authorizing him to drive the car until the license could be received. Here, too, he passed worthless checks on the National Bank of Lewistown.

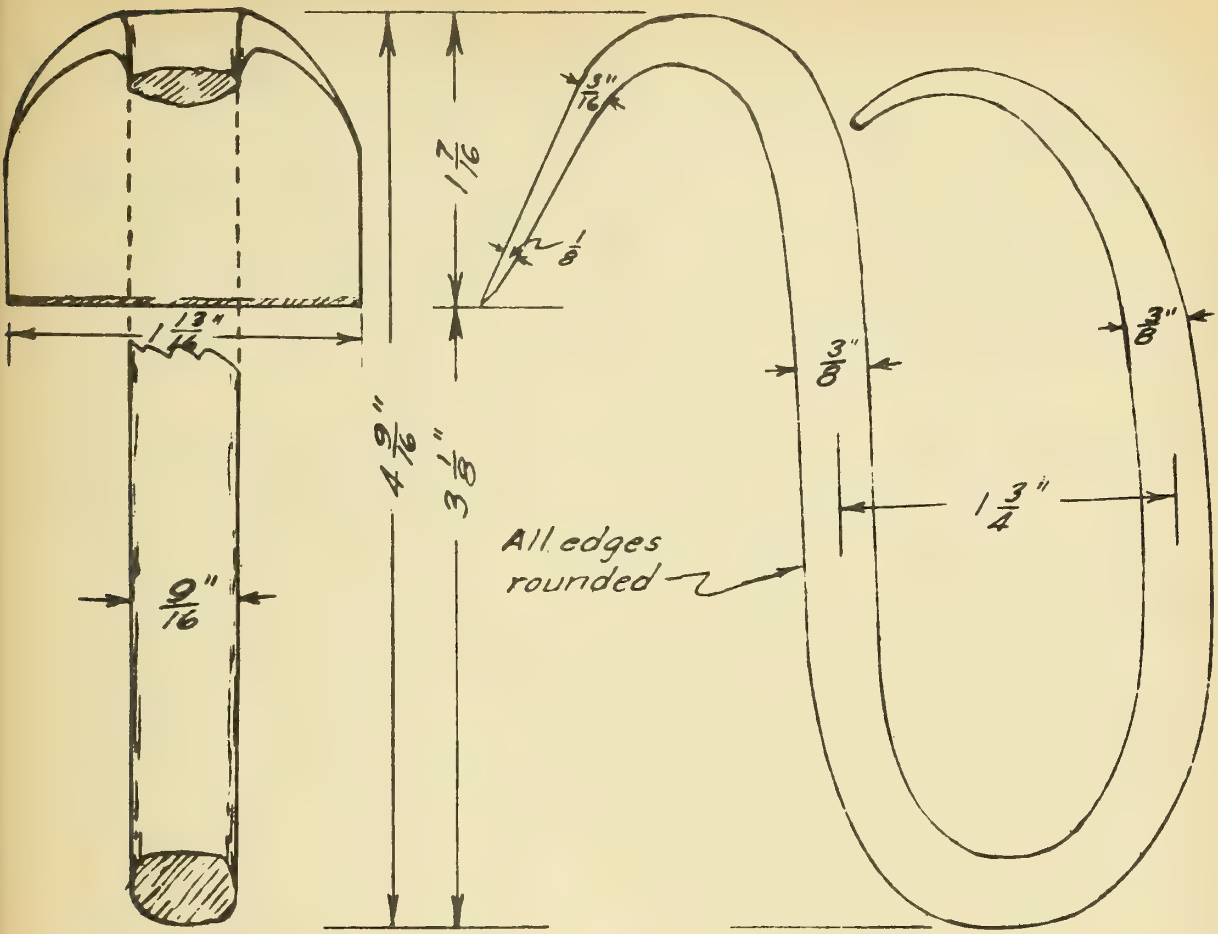
On August 26 he was seen at Wheatland, Wyoming, accompanied by two men, all three dressed like Forest officers.

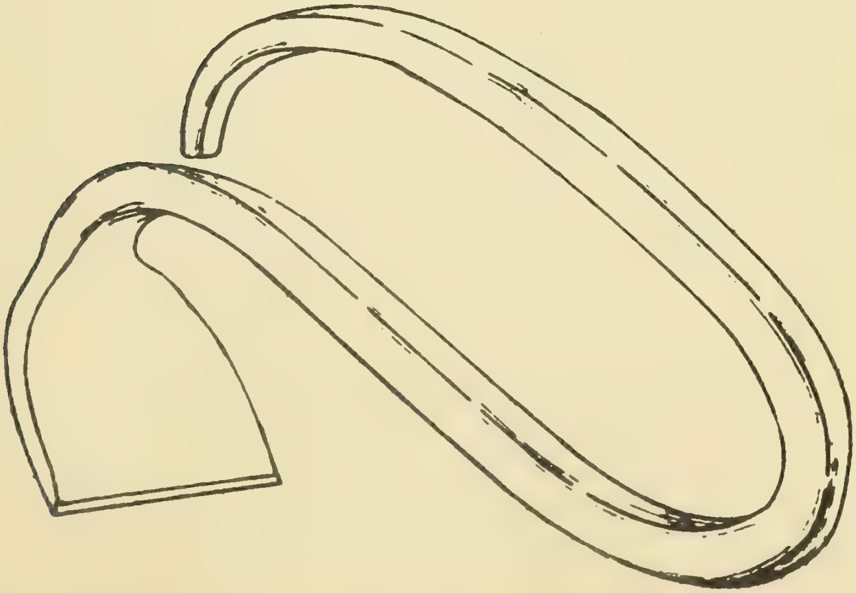
On August 27 the scene shifts to Denver where a clothing company cashed his check on the Merchants National Bank of Livingston, Montana, and later regretted it.

The next day he was in Colorado Springs and called at the Supervisor's office and, after allaying the suspicions of the Executive Assistant regarding his claims to being a Forest officer by his familiarity with Forest Service work and personnel, secured some Forest Service stationery and envelopes. One restaurant and a filling station cashed checks for him on the Merchants Bank of Livingston.

On August 29 he cashed a check at Pueblo on the Lewistown bank.

Either he didn't need any money August 30 and 31, or else he was in New Mexico, as no


1 13/16"
9/16"
4 9/16"
3 1/8"
1 7/16
3/16"
1/8
3/8"
3/8"
1 3/4"
All edges rounded



reports have reached us of his activities on those dates. But we do know that he talked to a Forest officer at Cameron, Arizona, on September 1, who understood Starr was enroute to Colorado and presumably traveling on Highway No. 89 (through Utah).

He is described as a tall young man, 18-23 years old, slender, light complexion, light brown or blond hair, wearing a Forest Service uniform.

The matter was placed in the hands of the Bureau of Investigation and is being investigated by the Butte and Salt Lake City offices of that Bureau.

It has been learned that Dale Medsker worked on the Beaverhead Forest in 1930 where he was found to be undependable and had some trouble over a bad check. Early in 1931 he passed checks on a Dillon, Montana, bank in Seattle. He also passed fraudulent checks in Libby, Kalispell, Great Falls and Billings, Montana, and spent three months in the Kalispell jail.

In May, 1931, he applied for work on the Flathead. The Supervisor took occasion to search his baggage but no Forest Service identification card or badge was found. At that time he promised to mend his ways but recent developments indicate he found the bad check route pretty soft and touring through the R-2 National Forests rather alluring.

We had assumed he had not heard of the superiority of California scenery but Ranger Bill has done his work well and on September 9 Starr was in Oakdale and Sonora, California, and on September 15 the final scene opens with his arrest at Santa Ana, California, under the name of Dale Medsker for issuing bad checks.

Region 2 is relieved to know that Starr's wings have been clipped and is grateful to the R-5 officer responsible for his arrest and to the Supervisors in R-1, R-2 and R-3 who furnished information regarding his activities which will doubtless be of assistance to the Department of Justice in indicting and prosecuting him.

NORTHERN ROCKY MOUNTAIN FOREST AND RANGE EXPERIMENT STATION ENLARGED

All research work for Region 1 has been consolidated in the Northern Rocky Mountain Forest and Range Experiment Station.

This reorganization will make no radical changes in personnel of those investigative units which have been functioning in the past. Lyle Watts has been appointed Director of the Station. R. H. Weidman will continue in charge of all forest management studies. M. I. Bradner, in addition to handling the investigative work in forest products, will take charge of work in the Northern Region for the newly launched Forest Survey.

Additional work following the consolidation will include expansion of the much needed investigations in forest fire protection problems and research pertaining to methods of utilizing forest ranges and handling livestock. This latter work will, however, be confined, for the present at least, to such projects as can be handled in cooperation with the Bureau of Animal Industry at the U. S. Range Livestock Experiment Station at Miles City, Montana. The consolidation will permit greater efficiency and coordination of forest and range research in the region.

USE OF TRACTORS IN LOGGING OPERATIONS INCREASING

By I. V. Anderson, R. 1

Logging and milling practices, like manufacturing methods in other industries, are constantly changing. It was, for instance, only eleven years ago (1920) that the first successful tractor skidding was started in the western yellow pine region of western Montana. Prior to that time two of the largest operators conducted extensive steam donkey skidding operations, while the balance of the sawlog output was practically all horse-skidded. By 1927 tractor operations were producing slightly over fifty per cent of the sawlog output of western Montana, and to-day approximately seventy-five per cent of the sawlogs for this region are tractor-skidded. Donkey skidding in this same region has been entirely replaced during the past decade by tractors.

A recent canvass of logging operations in western Montana showed the following tractors in use at the present time; eleven "30" caterpillars, twenty-nine "60" caterpillars and six tractors of the crawling track type of miscellaneous makes. Until just recently tractors were used for bunching, trailing in chutes, road engines and skidding with pans. Two operators are now using the Willamette, Ersted skidding arch on western yellow pine operations. Western Montana timber is somewhat smaller than the timber of the pine region of Klamath Falls where skidding arches have been successfully used for a number of years. In spite of the size handicap these two western Montana operators consider their arch skidding as successful. The use of arches will, no doubt, continue to develop wherever topography is favorable. It is with regret that we note this development and the exodus of the horse from the woods. Along with the increased efficiency in "log getting" comes increased damage to advance growth. The question then arises - Just what is the maximum allowable machine damage for good management practice?

YE EDITOR DISCOVERS

Last spring te American Paper and Pulp Assoiation, with headquarters in New York City appealed to the Secretary of Agriculture to have Alaska pulp timber taken off the market. This request was undoubtedly stimulated by the action taken by President Hoover to restrict the sale of National Forest timber as it applied to the lumber industry. The situation with reference to newsprint is not analogous to the lumber situation. In the case of newsprint, nearly two-thirds of the consumption in the United States is imported largely from Canada and Newfoundland, while in the case of lumber we have some exportation with practically no importation. Statistics gotten together show that as the imports of paper or its materials have increased the production in the United States has fallen off.

During the summer, the American Paper and Pulp Association called upon many of its constituents to make individual requests to the President. To date the Secretary has taken the firm stand that in view of the large amount of newsprint importation the United States Government should not refuse Alaska the opportunity to develop her pulp and power resources when the time is economically ripe. The present conditional awardees have made considerable investment in investigating Alaskan timber and power, and the Secretary feels that these prospective purchasers should be given te opportunity to go ahead if they see fit to do so. Both prospective purchasers are responsible and well financed concerns.

The following tabulation indicates the relation between importation of newsprint to the United States and production within the United States.

Imports Canada and Newfoundland to the United States	
1926	1,750,749 tons
1927	1,865,003 "
1928	2,040,920 "
1929	2,326,502 "
1930	2,129,872 "

Production - United States	
1926	1,686,000 tons
1927	1,516,900 "
1928	1,415,450 "
1929	1,409,169 "
1930	1,232,611 "

A united drive against the use of loud colors and multitudinous signs on resorts, service stations, stores, restaurants, and garages under special use permit has been initiated in Region 5. A letter is being sent by each Supervisor to every permittee on his Forest to the effect that the following standard requirements will be enforced hereafter:

1. Building must be painted or stained in colors that harmonize with the forest background. This means that the loud colors used by the Standard, Shell, Texaco, and other Oil Companies will not be allowed hereafter on new buildings; and when buildings already so painted need repainting, more subdued colors must be used or the repainting will have to be done over.
2. Where gasoline and oil are sold there is no objection to a sign in the Oil Company colors or the gas pumps and canopies may be painted in the Oil Company colors.
3. Placarding of buildings with multitudinous special signs such as "Coca Cola," "Old Golds," "Esquimo Pie," etc., will not be allowed. These detract from the appearance of the building, are not in harmony with the forest background, and seldom are of any value to the permittee.

- - - - - - - -

The first inter-Region Planting meeting is to be held in Denver, Colorado, November 2 to 7, inclusive. Representatives from Regions 1, 2, 5, 6, 7, and 9 will be present. The purpose of the meeting is to bring about a general exchange of ideas between the Regions as to nursery practice and field planting. The material expansion which has taken place in nursery work during the past few years in anticipation of increased planting appropriations as authorized by the Knutson-Vandenberg Act has seemed to call for a rather careful consideration of our whole nursery and planting policy.

- - - - - - - -

Chief Engineer Norcross has returned to Washington from a three months trip to Regions 5, 6, and 1, and the Ogden, Denver, and Milwaukee Regional offices. At San Francisco he attended the meeting of the Western Association of State Highway Officials and reports a large attendance of representatives from all the Western States except Washington. Representatives of the Bureau of Public Roads and the Forest Service also were there. Mr. Norcross says that it was extremely gratifying to note that the Forester's policy for roadside beautification was generally accepted and approved. One big problem still exists, however, and that is how to handle mineral claims, especially stone and sand, so that legitimate mining uses will not be injured, the beauty of the roadsides will still be maintained, and the Forester's decision that title to the roadside strip and right of way should remain in the United States will be adhered to. In connection with the Forester's policy, Mr. Norcross found considerable uncertainty in the Regions as to its application, especially in regard to Forest Development roads and those roads of primary value to protection where there is little or no public travel.

Most interesting and valuable work is being done in Regions 4, 5, and 6 on visibility studies and detection planning. Region 1 is about ready to start on a very extensive scale, but in this Region particularly, and in a lesser extent in the other Regions, there is a great need for better maps. Where good drainage maps are available, these can be used, but thoroughly reliable topographic maps are especially needed. In the detection planning Region 5 has made most effective use of the Shasta relief model, and Mr. Norcross is convinced that where good topographic maps are available, the model is the best tool for working out the cheapest and most effective detection plan. The cost may seem great but the model has value in many ways other than for the detection planning. Region 4 is using the sketching method and apparently is getting good results. Region 6 is usig the photographic method. Region 1 is up against a real problem due to lack of adequate maps and control. Sufficient time and money are probably not available for making drainage or topographic maps in the usual way. The Region will probably resort to photographs.

The Region 1 roads constructed last year and this year rendered invaluable service during the great and prolonged fire season. In many cases it is probable that the roads have already paid for themselves. It is very apparent that there is an urgent need for more roads and greater mileage of roads adequate for the large sized trucks and busses that the Region is using.

- - - - - - - -

The annual meeting of the Society of American Foresters will be held in New Orleans, Louisiana, December 29, 30, and 31, in connection with the winter meeting of the American Association for the Advancement of Science. Two days will be devoted to the presentation of papers, followed by a day's field trip to observe the forestry work carried on by the Great Southern Lumber Company.

A LETTER OF APPRECIATION

Rangers of Mount Baker
c/o Mount Baker Inn
Mount Baker, Washington

Dear Friends:

Now that I am safely in the hospital, and the x-rays have shown that I have a broken back, and now that I am in a cast receiving every attention which will insure an ultimate, permanent restoration to complete health and strength, I want to again thank you for your marvelous, strong, courageous, and tender care in transporting me from Kaiser Camp back to the Inn.

I did not know then that my back was seriously injured. I only knew that it hurt. But now I know that the careful, wonderful care you gave me saved me from being, perhaps, a hopeless cripple for the rest of my life.

Believe me, I shall never forget your kindness, and your courageous good humor as you trudged wearily through those hours over that treacherous trail. I know I have already thanked you inadequately, but cannot refrain from making this further attempt.

Sincerely yours,

JACK

JOHN S. LINGENFELTER, M.D.

AND SO IT GOES

Vacation time is at an end. We are back in harness again. The forest districts and offices are flashing the "Go" signal for increased activity in all lines of forestry.

The fire season is fast approaching. Are we ready to meet it? One way to handle the forest fire situation, as well as any other emergency, is to buckle down now and devote brains and energy to the job. - From Sept. 24 issue of Pa. Dept. of Forests and Waters Service Letter.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV No. 43, Washington, D. C. October 26, 1931.

ORIGIN OF THE PAUL BUNYAN LEGEND

James Stevens tells us that "The Paul Bunyan legend had its origin in the Papineau Rebellion of 1837. This revolt was a revolt of the French-Canadians against their young English Queen. In the Two Mountains country, at St. Eustache, many loggers armed with mattocks, axes, and wooden forks which had been steamed and warped into hooks, stormed into battle. Among them was a mighty-muscled, bellicose, bearded giant named Paul Bunyon. This forest warrior, with a mattock in one hand, and a great fork in the other, powerful as Hercules, indomitable as Spartacus, bellowing like a furious Titan, raged among the Queen's troops like Samson among the Philistines. He came out of the rebellion with great fame among his own kind. His slaughters got the grandeur of legend.

"Later this Paul Bunyon operated a logging camp. In that day logging was heroic labor. In the autumn the loggers went to the woods, forcing their way in batteaux up swift rivers. On every trip there were many wearisome portages around rapids. Snow and ice then locked them in their camps for five or six months. The workday was from dawn to dusk. The loggers lived on beans, salt pork, and sourdough bread. At night there were songs and tales around the shanty stove. Of course these were mainly about their own life, their own heroes. The camp boss was like the chief of a tribe; his will had to be the law, and he had to have exceptional physical power and courage to enforce it After his part in the rebellion there was no more famous camp chief in Canada than Paul Bunyon.

"Sure that the Paul Bunyan stories which have been told for generations in the American timberlands were of Canadian origin, I questioned many old time French-Canadian loggers before I found genuine proofs. At last I met Louis Letcurneau in the Big Berry country, Puyallup, Washington. And Louis' father-in-law, Z. Berneche, a snowy-maned, shininy-eyed, keen-minded veteran logger of ninety years, told me about the original hero. His uncle Collet Ballaine, fought by the side of Paul Bunyon, and later worked two seasons for him. Now, the French-Canadians have no genius for the humor of purposeful exaggeration such as the Americans have; the habitans exaggerate honestly and ehthusiastically and with an illusion of truth, like Tartarin of Tarascon.

"My uncle, Collet Ballaine, said Mr. Berneche earnestly, know that Paul Bunyon carry five hundred pounds on portage. That is truth. He was very big, strong man, you understand; he fight like hell, he work like hell, and he pack like hell. Never was another man like Paul Bunyon. That's right."

* * * * * * * * * * *

"Other evidence supports this view of the origin of the stories. There are stories told about an Irish-French-Canadian logger, Joe Mufraw (Murphy was his ancestral name); and the name of Joe Mufrae is famous in the woods, sometimes being linked with Paul Bunyan's. He appears in the Red River Lumber Company's collection of Paul Bunyan stories. Now, Joe Mufraw logged in the Misstassinny River Country in Quebec less than fifty years ago. I have seen pictures of this huge frowning man and his oxen. Many old French-Canadians have sworn to me that he put the calks in his boots in the shape of his initials, and that after the thirteenth drink he would kick his initials in a ceiling eight feet high. His feats in camp and on the log drivers were as magnificent.

"It was the American loggers below the Border who made of Paul Bunyan a true hero of camp nights' entertainment. They gave him Babe, the blue ox, ***. They created the marvelous mythical logging camp, with its cook-house of mountainous size and history of Olympian feats; and they peopled this camp with astounding minor heroes. They made their Paul Bunyan an inventor and orator, and an industrialist whose labors surpassed those of Hercules. They devised a chronology for him; he ruled American life in the period between the Winter of the Blue Snow and the Spring That the Rain Came Up From China. By 1860 Paul Bunyan had become a genuine American legendary hero."

* * * * * * * * * * *

"A Paul Bunyan bunkhouse service is a glory to hear, when it is spontaneous and in a proper setting; preferably around a big heater in the winter, when the wind is howling through creackling boughs outside, and the pungent smell of steaming wool drifts down from the drying lines above the stove."

* * * * * * * * * * *

"Nowadays, with a shed garage in every logging camp, a radio in the camp office, graphophones in the bunkhouses, and a jazz shack in the village just over the hump, the camp bard has a scant audience. But in happier times each camp enjoyed its chief story-teller; and such a bard could take one of the key stories and elaborate on it for hours, building a complete narrative, picturing aweinspiring characters, inventing dialogue of astonishing eloquence. (And what stupendous curses, terrifying threats and verbose orations such bards as Happy Olsen and Old Time Sandy could invent.)"

CAN AND CANDLE FIREBUG CONFESSES

By L. C. Hurtt R. 1

Onnie S. Kallio, 33-year old Finlander, milker at a local dairy, had a nice bank roll of several thousand dollars and a steady job at $80 per month but the unemployment problem worried him. He saw large numbers of men working on the McDonald Pass fire late in June and got an idea. The idea was to invert a tin can with two or three holes in it over a lighted candle located in needles and duff alongside a pitch stump or log, and then to return to his work. From four to twelve hours later when he was back at the dairy, someone reported a forest fire and jobs were provided for some of the unemployed. The experiment was very successful - at first. This state of affairs continued from at least July 20 to August 13. It was standing instructions to search the ashes of each suspicious fire for tin cans with peculiar shaped holes in them. Twelve to fourteen such cans were collected, almost every one of which bore a peculiar six-sided hole or holes.

Watchers were planted at various places to detect the tin can artist. It was fairly evident that local talent was at work, and it was strongly suspected he was working from a car. Careful tracking of the No. 6 shoes by Ranger Goodman on two of the later fires indicated that a car with a Goodyear diamond pattern tread on one wheel, was being parked on Travis Creek in a well-hidden spot, and that No. 6 shoe tracks led from and returned to this spot. This was a discovery worth while, for we shrank from the job of impounding all the wearers of No. 6 shoes or the owners of cars with Goodyear tires in this region.

A watcher was planted to find out what took place at the hidden parking place. At 7:22 p.m. on August 13, a car ducked off the main Travis Creek road and parked. A man with a long nose emerged, changed some of his outer clothes, and started up this hill, dodging from tree to bush "like a movie actor", reported former Ranger John Gruar, who was the spy. Gruar thereupon examined the car license, both fore and aft, looked into the car, and found three or four tin cans and some candles and got a description of the car. He followed instructions carefully and drove to the nearest telephone three to four miles away and reported. Ranger Goodman, Assistant Supervisor Hendron and Patrolman Haines, all with cars, left at once for the scene, part to go beyond the hiding place and part to stop short of the hiding place. However, the bird had flown when they closed in on the parking place. All was not lost, however, since we had the car number and description and a fair look at the firebug.

A call to the jail gave the name as Onnie S. Kallio, a milker at the Phillips' dairy as the owner of the car. Another call to Deer Lodge, disclosed that there had been no recent transfers of this car. A check back through the car numbers entering and leaving the Forest, showed that car No. 4768 entered the Forest at 7:02 a.m. and left at 9:54 p.m. on August 13. Exact time of entering on August 11 was also shown by these records a few hours previous to report of a tin can fire on August 12. A casual inquiry of the dairyman in the morning showed that Kallio was still on the job.

Everything clicked and for once I looked forward with pleasure and impatience to a fire report. This came in promptly at 1:30 a.m. on August 14, the necessary men were sent out and the fire, found just where it was expected, was corraled by 5 a.m. Faintly traceable No. 6 shoe tracks led from the hidden parking place to the fire and back. Best of all a careful examination of this parking place revealed three small chuncks of candle smaller than the end of your thumb, which had unmistakable tooth prints. Fairly good finger prints were secured from a can that had missed fire at a previous group of four attempted sets. Also, a portion of a colored ten-cent store candle was found in another tin can that had missed fire.

County Attorney Sherman Smith reviewed the collected evidence and became enthusiastic. "I will have a warrant out in 30 minutes", he said, and made his word good. The first question asked of Kallio after he was brought in was, "Who drove your Dodge touring car with license No. 4768 last evening?" Kallio failed to get the import of this leading question and admitted that he did. The last link was now complete. He denied at first all knowledge of the fire, but our records and clues soon proved too much for him. He finally signed a confession to setting six of the tin can fires. His admitted motive was to provide work for unemployed, and he apparently dramatized himself as a strong, clever guy. He played a lone hand entirely.

Incidentally, an old screw driver of a very peculiar and unusual shape, from Kallio's exactly fitted the holes in most of the tin cans collection when turned the proper way. It would be next to impossible for any other tool to fit so perfectly as this battered screw driver. When arraigned before Judge Horsky, Kallio's lawyer plead "not guilty at the present time". His trial should come about October 1 in the District Court. The penalty under the State law is five years in the Pen and $5,000 fine. It is anticipated that Kallio's lawyer will advise changing the plea to guilty and throwing him on the mercy of the court after the fall rains begin and sentiment is less agitated. If circumstantial evidence will convict, we think we have a case. After three weeks of baffled effort, it seemed almost too good to be true at first.

The newspaper reporters cooperated splendidly by suppressing entirely the method used in setting the fires, but played up secret recording, and the long period of sleuthing and the damning chain of evidence exactly as requested. The cards were on the table and they reviewed every bit of evidence. It was explained that the story might mean either a detriment or a big help to the Forest Service, depending on the way it was written. Not a word was ever reported about tin cans or candles. Kallio admitted incidentally that he had learned of the candle-tin can method through the newspaper - apparently in connection with the Ohio Penitentiary fire about a year or two ago. Kallio and Willis Kroll, another confessed fire bug, now find shelter and leisure at the county jail as neither have been bailed out. Kroll was arrested July 18. Unfortunately, our evidence is not so complete in his case. R. 1 Bulletin

AMOUNTS AVAILABLE FOR THE TWENTY FIVE PER CENT AND TEN PER CENT FUNDS FROM NATIONAL FOREST RECEIPTS FOR THE FISCAL YEAR 1931

State	25% Fund	10% Fund
Alabama	136.38	54.55
Alaska	12,931.37	5,172.55
Arizona	68,919.57	27,567.83
Arkansas	20,035.70	8,014.28
California	280,824.46	112,329.78
Colorado	135,212.00	54,084.80
Florida	10,059.76	4,023.90
Georgia	2,170.21	868.09
Idaho	133,081.12	53,232.45
Louisiana	1.63	.65
Maine	803.59	321.44
Michigan	982.66	393.06
Minnesota	8,883.64	3,553.45
Montana	67,151.98	26,860.79
Nebraska	2,106.12	842.45
Nevada	25,930.69	10,372.28
New Hampshire	11,578.46	4,631.38
New Mexico	32,211.46	12,884.58
North Carolina	4,753.91	1,901.57
Oklahoma	1,514.78	605.91
Oregon	122,557.51	49,023.00
Pennsylvania	3,334.38	1,333.75
Porto Rico	63.75	25.50
South Carolina	635.97	254.39
South Dakota	32,099.22	12,839.69
Tennessee	3,015.35	1,206.14
Utah	58,054.73	23,221.89
Virginia	5,853.76	2.341.50
Washington	115,174.01	46,069.60
West Virginia	473.82	189.53
Wisconsin	1.56	.63
Wyoming	80,055.44	32,022.18
Total	$ 1,240.608.99	$ 496,243.59

PUBLIC RELATIONS PAY

By Jno. D. Guthrie, R. 6

Boy Scout Troop #65, of Seattle, Wash., Clark E. Schurman, Scoutmaster, spent some time last summer in the Mount Baker National Forest. Forest Rangers Albert Wiesendanger and H.E.D. Brown and Patrolmen Peterson and Smith of that Forest, in the course of their regular duties, gave them information and were of some assistance to these Scouts and their Scoutmaster.

On Sept. 22, Scoutmaster Schurman wrote to Regional Forester C. J. Buck. Because that letter is such a sincere expression of appreciation of these four Service employees, because such letters are not so common in a Ranger's life, and because this letter is so well expressed, portions of it are here quoted:

"I have had a hankering for six weeks to tell someone who might care, about the ranger service encountered by Seattle 65, Boy Scouts, on a two weeks outing Aug. 2-16 at Mt. Baker. Asahel Curtis thinks you might appreciate what I recited to him. This is a letter of commendation, not of complaint. We were not rescued, and there was no dramatic point to suggest a fan letter of any kind. It is a good deal more difficult to say nice things and be believed than to cuss. Readers usually wonder what the hook is and what the chap is going to ask for-when he starts. There isn't even a hook in whatever feathers there are in this note to you as regional forester."

* * * * *

"But there are four fine fellows; they were a lot to my kids; these brief contacts will become traditions through this Scout generation, and my boys will inevitably cooperate with all rangers through all time - a few fine contacts set the tide with youth.

"I'll probably not cross your trail or sit at your campfire, sir. I have had nine troop outings of 15 days or more in Rainier, two in the Olympics; one in Alaska, and this one in Mt. Baker. We have three times been allowed to make short side trails in Ranier; and one on Silver Peak under Mr. Weigle's permission.

"Our religion is to go too well prepared to have adventure as the public sees it that is, to have trouble and mis-adventure. Se we have come to appreciate competence and fine administration in the absence of dramatic circumstances. Without trying to preach, it is admiration for this in your organization which prompts this letter. Sixteen years of leading kids on my own vacation time makes me appreciate deeply what is too often taken for granted about the Forest Service.

"You need not acknowledge this letter; but if one visitor's word is any encouragement when these men can't accomplish all they want to - tell them Clark Schurman wrote you they were a mighty good crew."

OUR BIG TREE DEPARTMENT

That Juniper

Of course we are glad to see our native State, even though by adoption, get into the papers occasionally. Furthermore, we are always glad to read Lou Barrett's interesting effusions. But in the interests of exactitude, we don't like to see claimed even for ourselves, things that may be difficult to justify. When we claim anything, it may be the best - and it usually is: witness our mountains, forests, ocean or desert: we admit our stories are. So, when L. A. B. claims for California the largest California Juniper, we agree because the California juniper is what might be called a "home-loving tree." (Lower California, a part of Los Angles, has not yet been formally annexed.)

Our impression is that the California juniper does not particularly care for high altitudes very much - or even for the Eldorado National Forest. Not that the Eldorado is such a bad place, but some trees with rather weak constitutions don't care for the rugged severity of Placerville and its environs. Consequently, unless Carson Spur has moved recently and the California climate undergone rather marked changes since I left it a few weeks ago, I fear that the large California juniper may, after all, turn out to be just another exotic imigrant moved over from Utah. If so, it would not be the first such resident to settle in California and to find there conditions so salubrious that all others of the tribe are surpassed in size, long life, or even in publicity value. (Witness Aimee). So before a bronze plaque is erected and the Carson Highway cluttered up with another sign, it is hoped that the appropriate forest officer will determine whether the Eldorado Juniper is in reality a true California juniper, or whether it is just a native by adoption. We will concede of course that no matter what species it is, it is the biggest and best juniper in America. - E. N. Munns.

YE EDITOR DISCOVERS

The California Forest Fire Emergency Committee through the State Chamber of Commerce is now conducting a stringent campaign to wipe out incendiarism in the State. The back-bone of the campaign is the organization in each county of a vigilante group by the County Fire Emergency Committee. The latest methods of modern police tactics in secret shadowing, secret patrol, and secret signaling will be established between the secret service corps operating in the forests and the vigilantes operating throughout the county. State Forester Pratt has appointed a State Chief of 32 years' experience in law enforcement work in charge of the campaign.

Causes of the incendiary outbreaks this year, State Forester Pratt attributes to unemployment, boys craving excitement during periods of fires, and the long-standing desires of selfish interests to rid certain areas of brush dor definite purposes. "Were it not for fires of incendiary origin in northern and central parts of the State," he says, "the entire fire record of the year would have been held to one of the lowest in the history of fire prevention work."

- - - - - - - -

About 35 per cent of the homes in the United States now have radio sets, according to figures released thus far by the Census Bureau. With all but five States heard from, the Census report shows that of a total of 20,273,508 families, 7,175,048 have radio sets.

The ranking State so far in total number of sets is California, with 839,991; Ohio follows with 810,767. Massachusetts holds first place among the States so far reported in the percentage of families owning radio receivers. In the Old Bay State, 57.6 per cent of all homes are radio equipped. Rhode Island is only one-half of one per cent behind Massachusetts in its proportion of sets to families. In California, Connecticut, District of Columbia, Massachusetts, Michigan, Rhode Island, and Wisconsin more than 50 per cent of all families own radio sets. Mississippi, with only 5.4 per cent of its families having radios, and South Carolina, with 7.7 per cent, are at the bottom of the list.

Reports for New York, New Jersey, Pennsylvania, Illinois, and Texas have not yet been made public. These include the more thickly populated areas of the country and tabulations from these States should increase considerably the total number of sets and probably the U. S. percentage of radio equipped homes.

- - - - - - - -

Region 5 has just submitted a land exchange proposal involving 16,365 acres of land supporting 364,000,000 board feet of timber, which indicates that it is handling its land exchange in the same big way that California does other things. The price at which the land is offered is exactly half of the assessed valuation and about one-third of what the owners would have been willing to accept a few short years ago.

- - - - - - - - -

The National Council of the Boy Scouts of America on the occasion of its twenty-first annual meeting passed the following resolution:

"WHEREAS, the forests of our country are being destroyed four times as rapidly as they are being replaced, and human carelessness is responsible for 60 per cent of the property loss each year through forest fires, a loss involving millions of dollars, the National Council recommends that the Boy Scout Troops cooperate with National and State Bureaus of Forestry in conservation work and tree planting, and that every Boy Scout Troop adopt a forestry project as part of its year's program."

- - - - - - - - -

D. L. Beatty's bulletin outlining a course of experimentation and development in use of radio in forest protection during the past several years has been mimeographed and one copy has been sent to each Forest Supervisor's office.

PAYING AS HE GOES

A few months ago a land exchange case was received with a strong recommendation that a valuation of $1,700 be allowed for the offered lands. Before all details could be arranged, Mr. Sherman in the course of his present field trip sat in on the negotiations. Recently the owner of the land submitted a new offer involving the payment of $1000. The apparent saving of $700 will just about cover the total travel expense of Mr. Sherman's trip. The Washington office is now awaiting receipt of another amended offer which would involve a saving sufficient to cover Mr. Sherman' salary for the trip and even foresees the remote possibility of a third amended offer which will be an absolute profit equivalent to the declaration of a dividend. - L. F. Kneipp

BACK TO THE WOODS?

(John A. Ferrall in News Letter, Office of Horticultural Crops and Diseases)

And now in addition to the inventions for transferring to bread and similar foods the vitamins that should logically be secured through eating fruits and vegetables, the research specialists are announcing further competition in the food world. This time the competition is from wood! Yes, from producing a substitute for silk, they have turned aside to rayonize food. German scientists, the newspapers tell us, are now urging their countrymen to manufacture new foods through the hydrolization of wood, claiming that the nutritive value of a pound of firewood, say is equal to that of a pound of oats. I wonder how this will sound to the farmers who have been burning wheat or corn instead of firewood, little realizing that they were living in the future when we shall be eating firewood and burning grains and vegetables! Of course, I have eaten under the name of breakfast foods stuff that bore a great resemblance to either sawdust or shavings, but the menu of the future as suggested by the newspapers discussing this food-from-wood idea is still a little startling:

Shelf Fish
Lintel Soup
Pickled wagontongue, Drumsticks Fricasses
Planked steak, Beef a-la-wode, Roast Lamb
Ash with Poached Axe
Elm Chops Roast Cork with Apple Saws
String Beams Pole Beams Chips
Lattice solid, with Maple-Walnut Dresser
Stewed Beeches, Door Jamb, Sliced Oar-anges
Raspberry Shrub
Box Beer in Larch Quantities

BLISTER RUST IS SPREADING IN THE EAST

Specimens of blister rust with either uredinia or telia, or both, have been found on Ribes in Maryland, Virginia, West Virginia, and Ohio. Immature rust cankers on pine have also been found in Maryland and Iowa. These specimens have all the characteristics of Cronartium ribicola, and because of the establishment of the white pine blister rust in adjoining States, there is every reason to believe these findings are of this disease. However, it is customary to submit the first discovery of the rust in any State to the Division of Forest Pathology for confirmation through microscopic examination and measurements, and by inoculation wherever possible.

The Division of Forest Pathology has confirmed the identification of the pine specimens collected near Pen Mar, Maryland, and at Ames, Iowa, stating that one specimen from each locality showed "Peridermium strobi mycelium". - The Blister Rust News

DID THEY GROW?

What happened to the various species of trees planted experimentally in the Southwest in the early years of the Forest Service? Reports in the files indicate that seed of Pinus gerardiana (Wall) Chilgoza pine from the Himalaya Mountains was tried out at Ft. Bayard. This pine grows in high, arid valleys and produces 15 to 25 cones annually, each full sized cone yielding over a hundred seeds which are nearly an inch in length. The seed is very nutritious and agreeable in flavor. The Service also received Chinese Pistache seed for planting at Ft. Bayard, on the Tonto and on the Coronado. The old Studies files in the Regional Office contain many interesting accounts of efforts to find grasses and shrubs to revegetate and reforest the lands on the National Forests. - R. 3 Bulletin

HOW LONG WILL A TROUT LIVE

The age record for a trout in Califlrnia, according to W. H. Shebley, of the State Division of Fish and Game, is 19 years. Mr. Shebley raised a Dolly Varden trout at the Mount Shasta Hatchery to this age. The fish weighed between 13 14 and pounds at the time of its death, and had produced between 20,000 and 30,000 eggs during its lifetime. - R. 5 Bulletin

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 44 Washington, D. C. November 2, 1931

A LETTER FROM WILL C. BARNES

"On Board S. S. Keigan Maru
"September 12th, 1931

"We are out in the middle of the Yellow Sea about half way between Kobe and Tientsin. To our left dimly is our first sight of the shores of China. A tall mysterious range looms up through the haze.

"The ride from Kobe on a 2,000 ton steamer has been an experience. Only small boats make the five-day trip but they are very clean and comfortable with good food. The Japan sea is full of islands off Korea, thousands of them big and small. On every one of any size is a hamlet or two with terraced fields clear to the mountain peaks. The sea all around is full of Junks fishing. We pass them at night bobbing round with their light burning and wonder what the poor devils think about the world in general. What difference does it make to them about the disarmament plan, Germany's finances, England's dole, or who the dems will nominate next year? What a georgeous freedom from care or trouble.

"We shall be in Tientsin tomorrow night, Peking the next day, by train 80 miles; shall be in Peking two weeks. Then down to Shanghai to join the Dollar liner for Hong Kong, Manila and Singapore.

"We enjoyed Japan very much. A much finer country than any of us looked for. The mountains were especially beautiful. The huge forests of Cryptomeria amazed me. I thought we were in the California Redwoods, so fine were they. They have worlds of pine but it's all crooked warped stuff; I can't see why they haven't planted slash or other quick growing pines that are straight. I'd like to talk to a Jap forester and find out the why of this crooked tree biz.

"Coming on to this boat at Kobe I ran into a fellow who had a cow ranch near us in New Mexico. A Philadelphia architect named Meade. He was the late Roosevelt's confidential Indian inspector for several years; saw him last in the office in the Atlantic building when he dropped in to see me one day about 10 years ago. Small world isn't it? He was then in his private yacht on his way up from Florida.

"We have a delightful lot of passengers on this boat. It's more like a private yacht than a commercial boat - all congenial and nice companions.

"Yesterday we coaled at a Jap port called Moji. They took on board 300 tons of coal in 4 hours, all passed up from the barges on steps or platforms 8 inches above each other by hand from one to the other. Such speed and close work you never saw. Each grabbed the basket as it was passed to him - swung it to his next neighbor without raising his head or looking at all. Timed, they put up 75 baskets a minute for the 4 hours. I guessed a basket weighed 25 pounds. At the top the last man poured it into a hopper, threw the basket down. A man or woman - both sexes worked side by side - piled them up till they had 6 and then threw them over the heads of the rest down into the barge to the fillers who dodged them as they came. They had two lines of workers and not a break in one of them. A ceaseless flow of coal. I had learned of this human chain in coaling ships in Japan but never expected to see it.

"Our best regards to everyone in the office who may be interested in the doings of the Barnes family. We shall be very happy to be back among you again about next January."

PAUL BUNYAN

Concerning the genesis of the Paul Bunyan stories, Esther Shephard in her book "Paul Bunyan" has this to say:

"Certainly the stories resemble those other frontier stories which were told in that time back in the 30's and 40's, when western humor was at its height and when the most extravagant tales circulated, such, for instance, as those stories which were told of Davy Crockett. It is likely that part of this stream of western humor which filled such a large part of the literature of those early days, crowded out the main channel by the excitement of the Civil War time, may have found its outlet in the logging camps in the great Northern Woods and turned itself naturally into the Paul Bunyan legends. Many of the tall tales of the early frontier have been taken over bodily and made into Paul Bunyan yarns.

"The stories traveled westward as the logging industry traveled westward, and they seem to have been transformed to a considerable extent on the way. In the Minnesota camps, where the Scandinavian loggers were numerous, they were undoubtedly enriched by Scandinavian myth, aud there Paul Bunyan assumed some of the characteristics of a modern Thor. Farther West the stories seem to have taken on a little coloring from local Indian legends."

* * * * * *

"In the old days when the stories were told around the comboose from the deacon seat there were men who could tell Paul Bunyan yarns evening after envening for weeks together and never repeat themselves, but now with the new conditions in the camps, with the advent of the story magazines and political tracts, and the newly awakened economic consciousness of the men, the center of interest has shifted, and the Paul Bunyan legends seem to be going into the discard, and there is some danger of their being allowed to die out. The oldest of the stories date back at least to the 1860's and perhaps even earlier, and they seem to have been at their height in the 80's and 90's.

"The name 'Paul Bunyan' in the camps (Bunyon it is spelled in the East and Bunion the French have it) has several different connotations. Sometimes it is merely a tag on which to hang a practical joke, sometimes it is the name of some particularly clumsy or awkward fellow among the loggers or some inefficient or particularly unpopular boss, and again sometimes it is the nickname given to some especially clever or skilful workman; but generally it refers to this mythical figure, Paul, who is the hero of the great adventures.

"The teller almost always claims actual acquaintance with Paul. He 'worked for him on the Big Onion', or 'was with him the spring of the Round Drive', or 'had a brother who drove the saleratus wagon for Paul', or 'spent a winter in Paul's camp the year he logged three weeks this side of Quebec', or 'used to court Paul's daughter Teeny', or 'was one of the two thoussand filers in Paul's shingle-mill', or something else equally substantiating. The stories are always told in perfect seriousness and there is sometimes a regular 'code' which the narrator has to follow. He must tell the 'truth'. For example: the dog that Paul Bunyan kept in his camp was not to feed the swampers to in the spring in order to get out of paying them wages, but to feed the watch peddlers, tailors' agents and camp inspectors to."

* * * * * * * * * * *

"The figures and dimensions given in the stories often vary with the audience. Usually the narrator 'lays on all the traffic will bear, * * *.'"

* * * * * * * * * * *

"An obvious use of the stories is, naturally, to string the tenderfoot or to put a smart-Alec in his proper place. If someone comes to camp who brags of the big logs they took out in the camp where he last worked it is not long before he is 'taken down a peg' by a Paul Bunyan yarn, * * * * *."

THE POT AND THE KETTLE

By L. F. Kneipp, Washington

The policy of conservation of roadside beauty announced by the Forester last year evoked generous applause not only on the part of outside agencies but by many members of the Forest Service as well. It meant a restraint of commercial exploitation of natural beauty amounting almost to vandalism in some cases.

Casual observations throughout the National Forests create, however, some speculation as to whether this policy is construed as applicable only to outside interests or to the Forest Service as well. As one progresses along a beautiful mountain road, suddenly he comes upon a glaring new guard cabin set out in a clearing about 60 feet from the edge of the road. To right and left of the cabin are clumps of trees which would form much more attractive esthetic settings for the structure and would permit of a much more appealing and artistic treatment of the site. The car rolls along a few miles father and the twin of the first cabin is observed in an almost identical situation less than 100 feet from the edge of the road, and standing out in its naked ruggedness may be an outlying fringe of equipment and paraphernalia, exceedingly useful and essential in forest protection and administration but contributing not a bit to the beauty of the roadside. Here again are clumps and fringes of trees which if properly employed would have permitted a high degree of natural landscaping at practically no additional expense. Again one encounters a transfer station, a dozen unornamental structures fringing the sides of a quadrangle, denuded and made dusty by the hoofs of many wandering mules, the enclosing fence almost touching the roadside.

Instances of this kind doubtless can be noted in many places. Unavoidably, they raise the question in the minds of disinterested observers as to whether the new policy of the Forest Service is to apply only to those who are not members of the organization, or whether it is also to govern the Forest Service itself in the location of its improvements. It should of course, be obvious that the Forest Service can accomplish a great deal more by practice than by precept; that a logical policy of roadside conservation cannot be maintained unless it is religiously observed by the Service in all of its own undertakings. It is quite conceivable that non-official interests through misunderstanding, or to meet keen competition, may regard the exploitation of roadside beauty as justifiable, but certainly the members of the Forest Service have no warrant for such a point of view in connection with the Service's own improvement activities.

WHERE R. O. TIME GOES -- IN REGION 1

By R. F. Hammatt, R. 1

Nine hundred eighty-five man-days,- the equivalent of 2.7 years for one man!

This is the time spent by Regional Office personnel on far-flung fire lines in Montana and northern Idaho during 1931, according to figures just compiled.

Among the offices Engineering leads, with 342 man-days (contributed by 13 men), Operation comes second with 218 days (9 men participated), and Experiment Station personnel (5 men) third, with 172 man-days. Next in order are Lands with 107 (4 men), Management with 68 (3 men), Spokane Warehouse with 41 (1 man), Grazing with 31 (2 men), and Public Relations with 6 man-days (1 man) respectively.

Except for Lyle Watts of the Experiment Station, who arrived in R-1 late, and was absent most of the time, every Chief of Office was represented. Thieme of Engineering spent 20 days, Smith of Grazing 11, Stockdale of Operation 10, and Koch of Management 10, Wolff of Lands 8, and Hammatt, Public Relations, 6.

Fifty-four days out of 72 (the "official" season opened on June 30, closed on September 9). That's the high record, shared by I. V. Anderson and Wm. Ibenthal. C. N. Whitney takes second honors, with an even 50 days to his credit (all three are members of Experiment Station personnel with headquarters in Missoula). J. B. Yule, from Engineering is third, with 46 days, and Joe Halm of Engineering and Hugh Redding of Operation tie for fourth place with 44 days each.

Seventy-five per cent of the season on the fire line! Can any R. O. man, anywhere, beat this record of Anderson's and Ibenthal's?

Thirty-six per cent of the (season's) time of the entire R. O. personnel (it was very nearly the entire personnel, omitting its clerical and stenographic members) on the fire line! Can this record be tied, this year or any other, in R-1 or elsewhere?

And how much time is left for administrative work during the heart of the field season?

ACCOMPLISHMENT

In August, 1929, a fire on the Deschutes burned over 163 acres of western yellow pine type among other areas. Salvage was desirable. The owner of the adjacent timber at first was not interested, then thought he might log this burn, as a favor, to prevent the development of a bug infestation, and finally appealed from the Supervisor's appraisal and advertised price. He finally bid the advertised price, but lost the sale to a higher bidder who motor-trucked the logs 15 miles to a common carrier railroad, shipped them to another lumber manufacturing center, and made a reasonable profit for his effort and risk.

The sale was made by tree measurement at a cost of about $.10 per M. If log scaling had been done, the cost would not have been less than $.23 per M. The tree measurement volume proved to be about 4 per cent less than the scale on which the logger was paid by the purchaser of the logs.

The injured timber was salvaged within a year after the fire. The threat of a bug infestation in the weakened trees was met. A fair value of the Government's property was obtained. There was a good check on the working of the tree measurement procedure, using specific volume tables, and the results are under study with reference to the use of volume tables in future tree measurement sales in the locality. Administration was by the regular personnel of the Forest, without tying either a regular or temporary man to the job for scaling, so that costs were low and an example given of how available funds may be made to cover more work. The snags, actual and potential, were cut, thus reducing the danger of another fire. The timber was carefully marked so as to give the best chances for again establishing reproduction on this burned area.

BELIEVE IT OR NOT

By R. K. Winters, Southern For. Exp. Sta.

"Bumper crop of willow and cottonwood seed in 1928 results in almost half million two-year-old seedlings per acre." How's that for a headliner?

My notes of November 3, 1930, record the seedling count on 1/1000 acre of river-bar land that had seeded in with willow, cottonwood and Sycamore:

Willow seedlings	416
Cottonwood seedlings	52
Sycamore seedlings	1
	469

The seedling heights varied from one to ten feet. The four to five-foot height classes were best represented.

LUMBER PRODUCERS PLAN TO AID THEIR EMPLOYEES

Wisconsin lumbermen have just agreed to a State-wide plan which has for its primary aim the relief of their mill employees from the demoralization resulting from continued unemployment. This plan is soundly based on the prevailing conditions within the lumber industry. It does not contemplate any "made work", which in lumber manufacturing would be equivalent to production of a surplus, and which in the end might easily be detrimental to the interests of both manufacturer and employee. It aims merely to distribute the work that, in the belief of the managements of the industry itself, will be necessary.

Governor LaFollette and his staff consulted the lumber manufacturers in regard to what their probable cut would be during the winter, as dictated by the needs of individual companies. The probable total footage of production during the winter was totaled up, and it was found to amount to 28 per cent of the average production for the three years, 1927, 1928, and 1929. The lumbermen were then asked to agree to distribute equitably among the different sawmill communities the employment involved. They have agreed to this proposition, and each will limit its cut to 28 per cent of the 3-year average, so that every sawmill community will have at least 28 per cent as much employment as during that period. The plan, however, is flexible, and it will be applied, and where necessary modified, by a joint committee of the State government and of the lumber manufacturing industry of Wisconsin.

A similar plan is evidently in the formative stage at Tacoma, Washington, and gives further evidence, if it were needed, that lumbermen are willing to do the best possible for their men under present abnormal business conditions. The Tocoma plan will probably differ in detail, the mills there "rearranging their shifts, so that more men will be employed without increasing the output," the purpose being to provide, instead of full time for a few, part time employment and some income for as many employees as possible. - American Lumberman of Oct. 10, 1931.

YE EDITOR DISCOVERS

It's always fair weather when good fellows get together - especially if they unlimber their vocal cords and bray a few good old songs. But the Forest Service has no song that is all its own. Every college has one; the Marine Corps has one; the Quaker Oats Company has one; but foresters have recourse only to Sweet Adeline and the like.

For the purpose of selecting an appropriate Forest Service song, the Acting Forester has appointed the following committee: C. E. Randall, chairman, T. W. Norcross, A. B. Hastings, Miss Dorothy Smith, and Mrs. Daisy Edgerton. It is hoped this committee will be able to bring to light a song that will properly express the spirit of the Forest Service, that will be in order whenever a Forest Service program, party, or celebration is held, and that will perhaps be a suitable theme song for Forest Service radio programs.

- - - - - - - - - - -

Rains have not yet occurred in California, and although cooler nights and higher humidity have greatly decreased the fire danger it is hardly to be expected that no losses will occur during the remainder of the year. In recent dry years it has sometimes been as late as December before rains have ended the forest fire season in California. Most of the other Western Regions report the season definitely closed for this year. Preparations are now under way for meeting the fire danger which must be expected in the eastern States during the closing months of the year. The eastern Forests have so far had a very successful fire year in contrast with the unprecedented drought year of 1930.

- - - - - - - - - - -

Having met with success in grading, shipping, and marketing Christmas trees cooperatively last season, groups of farmers in New Hampshire are preparing to market cooperatively this year. Harvesting operations in the White Mountains section are expected to be in full swing by the end of October.

The State Extension Service and the Coos County Farm Bureau are assisting in the plan to select and standardize trees, shipping in carload lots from the farm pastures to markets in the metropolitan centers. Each tree will bear a red tag with "Greetings from the White Mountains."

Farmers carry out cutting operations personally, protect valuable timber stands, and preserve the scenic value of the region, which is much frequented by tourists. Extension Forester W. K. Williams expects to spend some time in November with the New Hampshire cooperatives to study their methods.

- - - - - - - - - - -

In order that individuals and organizations may make definite arrangements for the planting of trees to commemorate the two-hundredth anniversary of the birth of Geroge Washington, Governor Doyle E. Carlton of Florida has designated November 14, 1931, as Conservation Day. This day will inaugurate the season set aside in Florida for such planting, which is to end on February 29, 1932.

Governor Carlton urges the civic, patriotic, women's, juvenile, and all other organizations to cooperate with the American Tree Association and the Florida Forest Service in the planting of trees to beautify roads and grounds, and recommends to landowners that they restock at least some of their idle forest lands by establishing commercial tree plantations. He particularly urges the school teachers to lead their boys and girls in beautifying the school grounds by planting trees and in teaching lessons in forest conservation.

- - - - - - - -

Due, no doubt to the widespread depression that obtains throughout the country, numerous appeals are being received by the Forest Service from Senators, Representatives, and others for seedlings to be used in ornamental plantings around homes. The Forest Service is, of course, unable to meet such requests. The State Forestry Departments in most of the States distribute seedlings for forest planting on farms, usually at a nominal or cost price. Correspondents are being advised to apply to their State Forester for information regarding the conditions under which seedlings are distributed for this purpose.

- - - - - - - - - - -

The forest protection units which have been established in Florida are at present somewhat disrupted by the action of the State Legislature in prohibiting expenditure of State money for the protection of lands upon which taxes have not been paid. This action of the Legislature has resulted in the withdrawal of over 500,000 acres from the units which State Forester Baker has organized for protection.

- - - - - - - - - -

All has been peace and quiet in the Atlantic Building for the last two weeks, while various and sundry noises emanated from the Annex, a building in which the Forest Service has taken a number of rooms. These aforesaid noises were emitted by the group engaged in a growth conference. Attending from the field were Kittredge of the Lake States Forest Experiment Station, Frothingham and MacKinney of the Appalachian Station, Behre of the Northeastern Station, Schnur of the Allegheney Station, Baker of the Central States Station, and Demmon and Bull of the Southern Station. Those from Washington included Fred Morrell, R. M. Evans, Ray Marsh, E. N. Munns, W. H. Gibbons, W. D. Brush, and W. N. Sparhawk. S. T. Dana, of the University of Michigan, sat in as a representative of the Society of American Foresters. This group considered for the eastern United States the growth data which the different regions had submitted for the various types, as a basis for the report that the Service is to make to the Timber Conservation Board. It is understood unofficially that several adding and calculating machines gave out, to say nothing of the slide rules that were used in various computations. Just what the official figures arrived at in the conference show for the eastern United States remains to be seen.

- - - - - - - - - - -

As a part of the training program for the Forest Experiment Stations, three members of these organizations have come to Washington for an extended period of work in the Section of Forest Measurements. Those participating in the current program for the winter include Schnur of the Allegheny, MacKinney of the Appalachian, and Chapman of the Southern. These men will work under the immediate direction of Mr. Schumacher on specific projects in which their Station is interested. This training program is designed to give to those who are working largely in the field of mensuration training in statistical methods and in the more advanced mathematical developments used in forestry work. While it is not designed to develop mensurationists as such, it is designed to help the Stations use mensurational methods and technique and rigid statistical and mathematical analyses in projects that involve growth of trees and stands.

CONSTRUCTION OF FOREST PRODUCTS LABORATORY

The New Building for the Forest Products Laboratory began changing from an idea into a reality on August 24, when a battery of steam shovels and a fleet of trucks began operations on the site. Within two days the scenery for a block around was in a state of transformation.

Excavation and fill require the handling of about 90,000 cubic yards of earth and rock. This work is now far advanced, and concreting of the north wing foundation is under way, to be followed shortly by the beginning of steel erection.

The building is to be finished ready for occupancy within one year from August 19, the day the contract was signed. - The Log of the Lab.

CHARLES LATHROP PACK FOREST EDUCATION BOARD OFFERS FELLOWSHIPS

FOR THE YEAR 1932-33

Six to eight fellowships in forestry for the year 1932-33 are being offered by the Charles Lathrop Pack Forest Education Board.

Appointments will be made by the Board, on recommendation of a Committee on Appointments. The awards will be made to men who demonstrate natural powers of intellectual and personal leadership and who intend to make forestry their life work. Special emphasis will be placed on character, intellect, imagination, initiative, industry, resourcefulness, adaptability, ability to deal with men, ability to assume responsibility, and personal interest in forestry. An attempt will be made by the Board to obtain all possible information concerning candidates from former teachers, associates, employers, and others. No restrictions are made as to age, educational status, or practical experience. Ordinarily, however, the fellowships will be restricted to men of American or Canadian citizenship and will be granted only to those who have finished an undergraduate college course or its equivalent.

The amount of the fellowship grants will be determined by the circumstances of the individual cases. Generally speaking, the fellowships will range from $500 to $1800. In special cases, a higher sum may be authorized by the Board.

Applications for fellowships must be made in writing, on or before January 1, 1932, to the Secretary of the Charles Lathrop Pack Forest Education Board, 1214 Sixteenth Street. N. W., Washington, D. C.

OUR HATS ARE OFF TO YOU - R-5

"They've surely been educated", says Supervisor Ryan referring to campers and travellers entering the Kaniksu from California.

"It is painfully evident," Ryan adds", that the average Californian knows more about the 'shovel and axe' requirement than does the man, woman, or child from eastern Washington and northern Idaho. In a recent check-up we found every California car, without exception, equipped with axe and shovel. "Not only that," Ryan continued, "but many California drivers took occasion to tell us we didn't need the axe sign, so far as they were concerned--that they never left for a camping or fishing trip--anywhere--without storing these tools, handy for use, just as carefully as they stored beds and grub." R - 1 Bulletin.

FROM MICHIGAN

Our farming has already expanded too much perpendicularly and not enough horizontally. We need more useful crops. The crop that offers much hope is now being accepted by American farmers. Last year it made a gain of twenty-four per cent in this country, while Michigan led all States in its adoption. This crop is trees - forest trees. Last year 38,302 acres were reforested in Michigan. Wood will undoubtedly be in demand at good prices for a long time, and we can grow it on land that should not be, but is, devoted to the production of ordinary crops at a loss. Farmers can well afford to give close attention to forestry. - The Michigan Farmer.

MANY WHOLESALERS SELL SMALL-MILL PRODUCTS

That the small sawmill is an important source of lumber in the United States was proved in a survey recently completed by the Forest Products Laboratory. It was found that of approximately 4,000 wholesalers throughout the United States, nearly 1,400 buy their lumber wholly or in part from portable or other small mills.

The location of the wholesalers of small-mill lumber is apparently influenced by the location of both supply and consumption, but mostly by the latter.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 45, Washington, D. C. November 9, 1931.

R-6 FOREST RANGER TRAINING CAMP

By Jno. D. Guthrie, R.6

The first Forest Ranger training camp for the National Forests of Oregon and Washington opened at Hemlock Ranger Station in the Wind River Valley, Washington, on October 5, with an address by Regional Forester C. J. Buck. Later, Assistant Regional Forester Waha and Fiscal Agent Cousins gave talks on Operation and Accounts.

During the camp, evening talks will be given by the rest of the Assistant Regional Foresters: by Director Munger of the Forest Experiment Station; by Deans Winkenwerder and Peavy of the two State forest schools, and other specialists.

This first R-6 training camp is attended by 32 Forest Rangers from 19 different National Forests of the two States and will run from October 5 to November 3. The men selected are the younger, newer men in the Ranger force, who are in greatest need and who will profit most from such a course. The purpose of the camp is to train Rangers in the proper way to do their jobs, and the keynote of the camp is "doing the job", rather than being told how to do it. How to estimate timber, scale logs, prepare government sale papers, grazing applications, and special use reports, how to lay out trails and build them, as well as telephone lines and lookout towers, how to prepare and organize for a large forest fire, and how to fight it, are some of the many things these young Rangers will be taught by having to do them on the ground. In fact, more than 120 subjects are to be covered during the camp. The men are quartered in tents, have a good cook and lecture hall, though the primeval forest will be used mostly as a classroom.

The layout of the camp is excellent; there are two men to each tent, each tent is floored and boarded up on the sides, with a flat-top stove, table, two chairs, shelves, electric lights, and with a generous supply of split wood at the back of each tent, and running water nearby. The tents are laid out in a semi-circle, with a large parade ground or play-field in front where the men, in their few moments of leisure, play volley ball and indoor baseball outdoors.

The six instructors are Allen H. Hodgson, Regional Forest officer in charge of Personnel Training, assisted by Forest Supervisors John R. Bruckart, Columbia Forest, and Glenn E. Mitchell, Colville; Assistant Supervisor R. Tom Carter, Mount Hood, and A. D. Moir, Jr., Chelan; and Forest Rangers K. C. Langfield, Fremont, and Ross Shepeard, Columbia.

The men are divided into five groups, each in charge of a sponsor or instructor. There are no two men from one Forest in any one group. Among the 32 men there are some 15 District Rangers, the others being Assistant Rangers; there is quite a sprinkling of forest school graduates in the group. The big majority of the men are in uniform.

The Oregon Forest Rangers attending the camp are: Axel G. Lindh and Frank K. Lightfoot, Cascade Forest; Fenton Whitney, William Hallin, and Charles A. Overbay, Deschutes; L. D. Bailey and Charles H. Young, Fremont; Fred B. Ramsay, Arzy E. Kenworthy, Eugene D. Wilmoth, and A. E. Berry, Umatilla; Russell J. Wilbur, Santian; Vondis E. Miller, Siskiyou; Lewis H. Neff and W. R. Anderson, Siuslaw; Wade B. Hall, Wallowa; George A. Fisher, Whitman; Charles M. Rector, Ochoco; H. D. Harryman, Malheur; and Ralph Brown, Mount Hood.

The Washington Forest Rangers attending are: Peter Wyss and John P. Hough, Columbia; Paul K. Taylor and Herman W. Horning, Colville; Lloyd H. Fullington and H. E. D. Brown, Mount Baker; LeRoy S. Olander, Olympic; H. E. Peters, R. N. McCullough and Ray B. Hampton, Rainier; Edward P. Cliff, Wenatchee; and Henry R. Tonseth, Chelan.

There are 19 men from Oregon and 13 from Washington Forests. The Umatilla leads with four men, while the Deschutes has three; three Forests, the Umpqua, Crater, and Snoqualmie, have no representative at the camp.

EARLY DAY HISTORY - THE OLYMPIC NATIONAL FOREST

By L. F. Kneipp, Washington

If a person interested in the extent and character of the Olympic National Forest should by accident secure a copy of the first proclamation diagram of that Forest, he doubtless would be delighted that such a magnificent estate should have been preserved to promote the public welfare. It would have indicated the reservation of 2,218,000 acres, in part probably the finest forest soil and timber on the continent, a vast domain unbelievably rich in forest growth. As he progressed through the record he would receive a severe shock because in 1900 and 1901, 715,000 acres of the finest, most accessible, and therefore most valuable part of the area was eliminated from the Forest and opened to entry. To-day, aside from State holdings, practically all this area is in private ownership, much of it logged off, burned over, and presenting a problem of forest regeneration of large proportions.

These eliminations were based upon the contention that the land was of high value for farming purposes. Some people did try to farm it, a few are still endeavoring to eke out a livelihood by agricultural activities. But the farmers, either actual or ostensible, are very greatly in the minority; the greater part of the area is in large timber holdings. Even the bona fide farmers did not attempt to clear or cultivate all their entries, but as a rule retained upon most of their filings the virgin timber from which they hoped to derive an added compensation for their efforts. Their rewards, however, have been slow of realization The timber on their holdings cannot profitably be operated except in conjunction with that on the intermingled and contiguous timber lands, and these lands will not be logged for many years. Meanwhile, there is no point in the immediate purchase by loggers of timberlands which cannot possibly be operated by other than themselves. Consequently, the farmers have long waits ahead of them before they can capitalize their timber values, and, in the absence of competitive markets, the price they will derive probably will be painfully disappointing to them. This is an illustration of the fact that if "the mills of the gods grind slowly they grind exceeding fine." The eliminations of 1900 and 1901 not only failed to benefit the public but in large measure they failed to benefit the men who appropriated the lands and whose returns for half a lifetime of waiting will be meagre indeed. While the Olympic incident is now ancient history, its lesson may be of current value.

TIMBER CUT FROM THE NATIONAL FORESTS

By Fred Morrell, Washington

The following table showing the total sawed lumber cut in Regions 1, 5, and 6, the cut from the National Forests, and its relation to the total may be of interest to Bulletin readers.

Cut of Sawed Lumber in Million Board Feet for California, Oregon, Washingtom, Idaho, and Montana

Year	Total cut	Cut from National Forests	National Forest percentage of total
1915	7,445	316	4.20
1916	9,358	304	3.23
1917	9,304	436	4.69
1918	9,726	414	4.25
1919	9,850	421	4.28
1920	11,701	489	4.18
1921	7,961	469	5.89
1922	11,741	635	5.40
1923	14,261	782	5.48
1924	13,297	774	5.82
1925	14,815	825	5.57
1926	15,515	905	5.83
1927	14,709	794	5.40
1928	14,995	1,010	6.73
1929	15,566	977	6.27

For proper comparison, the National Forest cut should be reduced by 10 to 15 per cent, since the figures given include material other than sawed lumber, which has been accounted for by use of conversion formula.

Roughly the total cut in these States has approximately doubled during the fifteen-year period, and the cut from the National Forests has approximately trebled. But the National Forest cut has only increased during the 15 years from four to six per cent of the total, and it will evidently be a long while yet before National Forest timber will be a big item in the production of the Northwest.

ABOVE THE LAW?

By L. L. Hougland, Colville

Each year we are notified by the District Rangers of the slash hazards on privately-owned lands along roads in their territories. The owners are given notice that such areas are contrary to State law and are notified to dispose of such hazards in accordance with the requirements of the Forest laws of the State of Washington, and when weather conditions are favorable. If the owners refuse to take action, the State has authority to abate such nuisances, charging the cost against the property.

In our western yellow pine timber sale contracts we demand all slash and timber to be piled and burned within a certain distance of all roads and skid roads. We inspect brush disposal on B. P. R. projects throughout the Forest and require all brush to be burned.

The same men that we require to meet these obligations travel our motorway roads through the Forest that are built by us, and they wonder why we do not use the same policy that we advocate.

In referring to our regulations and instructions for some answer to pacify them, we find the following:

"THE DISPOSAL OF SLASH:

"Requirements designed to reduce the fire danger from slash created by cutting of green timber are a necessary insurance against loss of the new growth and trees left standing. These requirements are as essential on small cuttings - on free use areas, for example - as in large timber sales. Avoidable fire traps must not be created in the National Forests and this means the cleaning up of small amounts of slash as well as large ones. An effective method of slash disposal adapted to the actual hazard is therefore an essential feature of every timber use, contract, or permit."

We look further for some plausible excuse to offer, and come to the following:

"In cutting or using timber to meet its own needs, the Forest Service must set an example and do more rather than less than is required of users of National Forest timber under similar conditions."

It appears to me that the requirements should be consistent regardless of Forest roads, roads built by the B.P.R. or log roads, and I believe that the brush and accumulation on our motorways should be burned as we require other users to do, but which we are not doing now.

MORE ABOUT THE FIRES IN REGION 1 LAST SUMMER

One thousand five hundred and thirty-seven forest fires -- more than 21 each day -- were fought and conquered in Region 1 during the summer of 1931.

One thousand three hundred and ninety-one of these fires -- more than 90 per cent of the total -- were put out before they had reached ten acres in extent. This was accomplished despite unfavorable weather conditions -- including high temperatures and unusually low humidities, -- which reduced the moisture content in duff, slash and down logs on the forest floor to less than 10 per cent for a period of 65 out of the 72-day fire season. Greater dryness than this, according to official records of the Priest River Experiment Station, seem inconceivable in any climate which permits of forest growth. It took 1,275 miles of fire trail to surround these fires.

Eleven men lost their lives on these fire lines. Burning snags, treacherous, flaming dead trees standing beside fire trails that had to be built, caused four of the deaths on widely scattered fires.

Tourists and campers were responsible for 288 forest fires during 1931 through carelessness with pipes, cigars, cigarettes and camp fires. Railroads are reported as responsible for 61, four are laid to logging operations, 43 to unauthorized burning of brush and debris during the hazardous summer season, 121 were the work of incendiaries, 65 started from unknown causes, and lightning set a total of 955 fires.

The Deer Creek fire was the largest. Starting 20 miles northeast of Bonners Ferry this conflagration swept out of control with high winds, crossed the Montana line into the headwaters of the Yaak River, and finally reached the Canadian border. It is estimated that more than 175 miles of line was constructed on this fire; more than 1,600 men toiled for weeks before it was finally corralled.

The McPherson fire, which started on the Coeur d'Alene National Forest, was another large one, with 100 miles of fire trail built by more than 1,200 men. It was stopped on the headwaters of Pilgrim and Elk Creeks, in the Cabinet Forest, just before it reached the towns of Heron and Noxon, on the Clarks Fork River.

Greatest loss of ranch property was experienced in the Freeman Lake fire, on the Kaniksu National Forest. Here 34 families were burned out in three days -- more than one hundred people left homeless and largely dependent through the coming winter upon the Red Cross and the charity of kindly neighbors. It was on this fire that Ed Dailey buried his wife and two children in their potato patch, covering them over with earth and putting wet sacks over their faces to keep them from being burned to death. Next morning he dug them out and they reached Priest River in safety.

More than 24,000 acres were burned in this Freeman Lake fire and it took 90 miles of fire trail to surround it. Most of this acreage was outside the Kaniksu National Forest and Government losses were confined to about 8,000 acres.

Total area burned by fires handled by the Forest Service in Montana and northern Idaho in 1931 was 171,910 acres. Damage according to estimates now compiled, includes destruction of 40 million feet of timber, valued at $120,000, and of forest telephone line valued at $2,000. Tentative figures from cooperating agencies estimate additional losses on fires not handled by the Forest Service at $121,000. This latter figure includes $86,000 as the value of 43 ranches burned out, $11,000 for ranch livestock killed in these forest fires, and $24,000 for merchantable timber killed.

"The fire season of 1931 was a bad one -- the worst, from the standpoint of damage which might have been done -- since the historic season of 1910 when 74 people lost their lives in one fire," says Regional Forester Kelley.

The two human factors which were the most disturbing, according to the Regional Forester, were the large increase in fires caused by carelessness of tourists and campers through smoking and camp fires, and a similar increase in the number of forest fires deliberately set.

"The people of Montana," said Kelley, in commenting on this phase of the fire situation, "must realize their own individual responsibility in the matter of fire in their Forests.

"For these Forests are theirs," he continued, "and until every tourist, fisherman, and camper learns the danger of carelessness with fire and realizes that he, individually, must be careful and must see to it that others are careful, holocausts are inevitable."

From R. 1 News Release.

PAUL BUNYAN

Paul Bunyan was born way down (or up) in Maine, they tell me. He was husky then. At three weeks old he rolls around in his sleep one day an' knocks down four square mile of timber.

His folks had to move so they made a floatin' cradle out of 60 foot 10 x 12's and anchored it off Eastport. Young Paul's weight in his cradle raised the sea and made an island out of Nova Scotia so they had to move him again. When he crawled out of his cradle an' settled down in the water a little he raised a 75-foot tide in the Bay of Fundy and seven warships was sunk. They used the timber of Paul's cradle to rebuild the seven warships. By Gar, tha's right!

Old man Bunyan was woke up one mornin' by a rumblin' of the house and he found his bed two feet lower than it was the night before and young Paul layin' sound asleep beside it with his dad's cross-cut saw in his little fist. He was snorin' and each snore shook the house. This cute little trick convinced his parents that Paul was bound to be a great logger some day, and they was right. There aint never been loggin' before or since like Paul Bunyan done.

SOMETHING SHOULD BE DONE ABOUT THIS:

Early in September numerous California newspapers carried the news that M. B. BOW, regional forester, had issued orders barring hunters and travelers from eight of the National Forests in that State. Readers of said items were left in complete doubt as to whether the aforesaid regional forester was a long-bow, a cross-bow, or a relative of Clara's. The next day's clipping announced "closed forests listed by Snow." September 5 seemed rather early for snow in California, especially enough to list a National Forest, but close scrutiny showed that reference was made to Regional Forester S. B. SNOW. Looks as though the R-5 skipper will have to invent a pseudonym that can not be distorted or contorted, have it copywrited, and employ it in all press releases.

YE EDITOR DISCOVERS

Robert Marshall, who is on leave of absence from the Northern Rocky Mountain Forest and Range Experiment Station, has just returned from Alaska where he spent thirteen months among the whites and Eskimos in a very remote placer mining community far in the interior. Marshall went to Alaska to study a variety of subjects but especially the civilization and folk ways of both whites and Eskimos living in this remote part of the world under conditions far removed from anything known to this generation. He expects to write a book, which will undoubtedly be exciting reading for all those interested in characteristics of human beings, particularly in an environment so unusual that it in effect constitutes a laboratory experiment in anthropology. Pioneer conditions in this community are indicated by the fact that it costs 15¢ a pound to get in supplies, which, Marshall says, is deplorable for a man who, like himself, is accustomed to having three spoonsful of sugar in his coffee.

Among Marshall's interesting accomplishments while in the frozen North was his mapping of 12,000 square miles of the Arctic drainage, much of which probably no civilized man had previously seen. Marshall describes some of this country as rivaling in grandeur the Grand Canyon. Interesting observations were made on the growth of spruce at the northern limits of its distribution. Spruce was found growing on soils which thawed to a depth of from two to four feet in the summer time, and apparently the degree to which these soils were free of ice determined the distribution of the species. White spruce was the more common species found, although occasionally in the swamps black spruce occurred. In many instances spruce grew very slowly for the first hundred years of its existence. In most cases trees only a few feet high developed after a century of struggle against frozen ice driven by high winds. The ice cut the twigs and buds, preventing the trees from developing normally. However, a year or two of freedom from adverse conditions was sufficient to permit the trees to develop normally.

Marshall cited an interesting case of the results of forest destruction. He showed that where the forests had been removed from steep slopes snow melting came with a rush, causing floods and severe erosion in the stream bottom.

Dendrographs installed on spruce trees in this Far North showed that trees responded to the same influence as they did in more favored localities. Characteristic pulsation developed between day and night on the long Arctic days when there were 24 hours of daylight. Marshall explains this by the fact that evaporation and transpiration were more active during the warmer part of the 24 hour period and that the light of the Midnight Sun was not sufficiently intense to develop very much transpiration.

- - - - - - - - - -

The preliminary study of the bottomland hardwood region for the Forest Survey has just been completed This study, which is based upon strips run three miles apart in East and West Carroll parishes in Northeastern Louisiana, gives the basis for determining just what distance apart the strips can be run to keep the percentage of error as low as possible for the various units and for the different forest conditions. What interval will be used in the main survey of the bottomland hardwood region has not yet been fully determined, but it is expected that when Granger and Girard return to Washington they will have something to tell us about this work. In the meantime, the preliminary field work for the pine region is well under way. Strips are being run in Pearl River County in southern Mississippi to furnish data that will later be subjected to analysis in determining how far apart the strips must be run and how many plots will be necessary to get reliable data.

- - - - - - - - - -

The Branch of Operation is busily engaged in making up shipping instructions for a large quantity of surplus property which will be transferred to the Service by the War Department. Regional officers will remember the 140 page list which was sent to them last summer. We have been treated rather liberally by the War Department and the Regions will receive a good proportion of the items they requested. A lot of work remains to be done, however, and shipments will not go forward for sometime.

- - - - - - - - - -

In the spring of 1931, 942 members of 4-H Clubs in New York each planted 1,000 tree seedlings, or a total of nearly a million forest trees.

- - - - - - - - - -

The Northeastern Forest Experiment Station reports the appointment of Dr. Guy R. Stewart as Senior Forest Ecologist in charge of planting studies of the Northeast region. Dr. Stewart comes to the Forest Service with a background of experience in plant and nutrition work at the University of California and in Hawaii. He has also conducted investigations on abandoned agricultural lands in western New York. The project on which Dr. Stewart will be engaged is that of determining the reasons for the failures that have occurred in planting as a basis for avoiding previous mistakes. This is particularly important in view of the large scale planting which is projected for the Northeast region as part of its rehabilitation program of idle and submarginal agricultural lands.

BUYS BACK FOR USE LUMBER HE SOLD NEARLY FORTY YEARS AGO

Instances of the durability of Douglas fir lumber are fairly common, but a new twist was given this familiar story when a building wrecking firm at Marysville, Washington. recently resold to the lumberman who originally supplied them several thousand feet of 2 x 16s that had been in use 39 years at a price $2 a thousand higher than he had received for them when new. And the lumberman had no sentiment about it--he bought the used lumber to make a floor in a garage building. The building from which the lumber was taken was the Lincoln School, built in 1892, which was demolished in July, 1931, to make way for a new junior high school and a grade school building both of modern design and equipment. Though these timbers had served for 39 years as joists in a busy school building they show little evidence of their long use. Most of the other lumber, except flooring, was in equally good condition. - **American Lumberman Aug. 29, 1931.**

"UNCLE JOE" ELLIOTT - AN APPRECIATION

By T. D. Woodbury, R. 5

At 4:30 P. M. on Thursday October 15, a young septuagenarian, clothed in natty spring suit and light fedora, might have been observed striding firmly across the mezzanine floor of the Ferry Building toward the Berkeley ferry. A casual observer in the commuter throng would have detected nothing in his demeanor to indicate that he was passing one of the major milestones of life. Closer observation, however, would have disclosed the wild light of freedom in his eye. After nearly 29 years of fruitful service in the Federal machine, the door had been opened and Senior Lumberman Joseph Clinton Elliott, for my hero is none other, had been set free.

No more will he be disturbed by Chinese music on the old cookhouse triangle in the dark of a cold, frosty morning; no more will he tramp the deep, squashy dust of the logging truck roads with the sun of a California July wringing sweat from every pore; no longer will a bureaucratic assistant regional forester be able to order him thither and yon to smooth the ruffed feathers of disgruntled lumbermen. Instead of all this: freedom, peace, and the pursuit of his heart's desire; his pipe, his books, his carpenter tools (and with these Joe is no mean worker) and his Studebaker car.

Uncle Joe and I are the only remaining members of the original Forest Management team which started out under our beloved Fritz Olmsted over two decades ago. Shoulder to shoulder we have plugged along through fair weather and foul for the advancement of forestry practice in our California woods. Always, Joe has pulled his full share of the load. Many times when I was low in spirit he has cheered me with his quaint humor and droll philosphy. Many times his sound common sense and shrewdness have kept me from stumbling. What he has done for me he has done for many others in the Service. No one has more friends in the Region than he, and no one is more deserving of them. Wherever I go, timber operators, lumberjacks and forest officers all inquire where he is, what he is doing, and when he is coming around.

We shall all miss you, Joe! That there may be many happy days and many happy, healthful years ahead for you is the heartfelt wish of your many Forest Service friends and associates. **R. 5 Bulletin.**

NEW STAMPS WANTED

I see by the papers that the Post Office Department is going to print 58 different kinds of new stamps. Was just wondering if any of them would have the Forest Service insignia on it. If not, why not? Also, why not make use of the cancellation stamp during the fire season? A person can always see "Use Air Mail", "Do Your Christmas Shopping Early", "Give Correct Address", "Buy Red Cross Seals", but never see "Prevent Forest Fires", "Put Out Your Camp Fire", etc. Again we echo, why not? Would like to see a postage stamp of a size or shape that would be outstanding and it would do a lot of good. It seems funny to me that a little cooperation of this kind on the inside of the different departments would go along way in trying to put across to the public what is good and bad practice. L. D. Quackenbush, **Siskiyou. - R. 6 Bulletin.**

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES. WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

VOL. XV, NO. 46. WASHINGTON, D. C. NOVEMBER 16, 1931.

MR. SHERMAN, REPRESENTING CHIEF FORESTER R. Y. STUART, ACCEPTS CUSTODIANSHIP OF THE ROOSEVELT MEMORIAL OBELISK

"The Forest Service accepts the custodianship of this monument. We shall revere and protect it as the sacred shrine of conservation. In the absence of Chief Forester R. Y. Stuart, it is my good fortune to speak the official words accepting responsibility for its preservation from all but the consuming force of time.

"The time, the place, the occasion mark this as an act of historic significance. Our promise takes a tone of solemnity because of the sacredness of the cause which this obelisk commemorates.

"In Theodore Roosevelt conservation found its greatest champion. Whatever is admirable in our National Forest Service we owe to him and the leaders he gave to us. There were united in his soul the finest of the East and the truest of the West. His career and personality had this in common with the great highway which this monument adorns. He linked the East with the West. As this great thoroughfare breaks through Marias Pass, so did his instant and complete understanding break through every restraint or prejudice of provincialism. He was the ideal outdoor man. Above all other statesmen of his age, he understood the language of forest and plain, river and mountain, the coney in his house of rocks and the waterfowl winging its distant flight. He saw not alone the beauty and mystery of nature but appreciated as well the potential value of forest-clad hills, tumbling streams and arid plains. He lived his own day with busy hands and throbbing heart, yet he saw far into the future, anticipated the needs of those who follow in our footsteps and with calm courage and, so far as laid within his power, made provision for those needs.

"Washington fought for the independence of man in 1776; Lincoln labored for the union cause of '61; Roosevelt sought economic justice and opportunity, not for his own generation alone, but equal justice for the generations which are to follow. Like Washington and Lincoln, he grows in moral stature and historical importance with the passing of time. Instead of fading into the distance, his dynamic character is more clearly and sharply outlined.

"The Forest Service gladly accepts this custodianship. We, too, are of both the East and West. Today, standing on this great continental divide, we rejoice that Theodore Roosevelt was our great leader. It was his signature that brought the Forest Service into existence. His signature added 120,000,000 acres to our National Forests and dedicated them to the service of all the people. Take from our National Forests today the reservations made by Theodore Roosevelt; balance against them all the lands added by other Chief Executives before his day and since, and his contributions outweigh them all. What wonder that such men as Pinchot, Graves, Greeley, and Stuart have carried on with loyalty in their hearts and always a smile of contentment on their lips, born of a noble cause.

"We rejoice in his memory. We rejoice that this memorial was born of the inspiration of a former member of the Forest Service, Hon. Scott Leavitt, congressman from Montana. To him, as to each of us, his Forest Service badge and shield, emblem of public service, is a simple American equivalent of the Victorian cross.

"In the name of the Forest Service, and pledging its support to the principles of human justice which inspired the cause of conservation, this memorial is accepted, to be held in trust for the people of the United States, generation by generation."

DEDICATORY ADDRESS AT UNVEILING OF ROOSEVELT MEMORIAL BY

SCOTT LEAVITT, REPRESENTATIVE IN CONGRESS FROM MONTANA

The purpose for which this monument is erected by the Congress of the United States to Theodore Roosevelt for his leadership in forest conservation may be stated in a few words. The first day of February, 1930, marked the twenty-fifth anniversary of the organizing of the present Forest Service. Theodore Roosevelt was at that time, in 1905, President of the United States and it was because of his interest in the conservation of the National Forests that this reorganization was possible, and it is in turn due to that reorganization that forest conservation came to assume its place of great importance in the life of the nation. So clearly did President Roosevelt see the necessity of a well-founded forest policy that he remarked on one occasion that the conservation of its forests constituted in many ways the most important internal problem of the United States.

Observance of the twenty-fifth anniversary of the birth of the present Forest Service was had in Washington. On that occasion it was my privilege to address the House of Representatives on the significance of the day, and to state that I would introduce a bill to make permanent the tribute of a grateful country to Roosevelt, the Conservationist. I introduced such a bill, and it finally passed in a form which has provided this magnificent monument, erected here on the continental divide and on the boundary line between two of the greatest National Forests. What I had in mind was expressed on that occasion to the effect that posterity, witnessing the resulting benefits of Roosevelt's wisdom and courage, would say that no greater evidence exists of his statesmanship than his essential contribution to a national policy of forest conservation. His leadership was not only evident and necessary at the seat of Government, but it was also potent in creating throughout the land that understanding and active public sentiment required to advance such a great idea into the position of a permanent national policy and to a program of achievement. His voice reached the ears of the people, and theories which had been entertained by the few became the established conviction of the many.

Among the decisive steps which he took, one arose out of the situation in 1907, when there was written into an appropriation bill by opponents of conservation a provision that the President should no longer have authority to create National Forests by his own proclamation, within the boundaries of five of the Western States. When this matter was brought to his attention, with characteristic decision and energy, Roosevelt called for the preparation of proclamations to add an additional 17,000,000 acres at once to the National Forest areas. He signed those proclamations first, and then signed the bill containing the provision which deprived him of such power. He realized that the future judgment of the nation would be behind the preservation of the great forested areas of the mountains, not only as reservoirs of a timber supply for the nation, but also for the protection of the headwaters of the streams to give life and permanence to great agricultural areas, to assist in the control of floods, and to provide a measure of stabilization to the flow of navigable waters. He knew the West and the great mountain areas, and he likewise knew the problems of stream flow, forestry needs, and the necessity for recreational areas within the congested sections of the East. His was a national vision, coupled with courage and initiative, out of which sprang accomplishment. In my judgment, let me repeat, the generations of the future will say that no greater permanent contribution to the welfare of the nation exists within the entire scope of the tremendous and varied activities of this truly great American than his leadership to make permanent as a national policy the conservation of our forests.

The location of this monument on the continental divide and on the boundary line between the Lewis and Clark and the Flathead National Forests has a special significance. It stands in the center of a highway dedicated to this great leader. It stands in the center of that highway, so that it will stand in the view of the thousands following this way to the West. It stands at what may well be considered the gateway to the great region of National Forests, into which the traveler will go as he passes this way. It will serve to implant in the minds of those who come here the purposes and the need of the care of our forests. They will travel on with minds turned toward their own duty to assist in the preservation of that heritage which leaders such as Theodore Roosevelt and those who labored with him thus preserved for the generations to come. It will arise here, a memorial to great public service. It will arouse the desire of those who witness it to emulate in their own way those qualities of good citizenship which include an essential contribution to the general welfare.

Its location has likewise a touch of sentiment so far as I am personally concerned. I wrote this location definitely into the law in order that no question might arise as to the spot upon which this obelisk should be erected. It so happens that the Lewis and Clark National Forest was the first over which I had supervision as a Forest Supervisor. I came to this area as the Supervisor of the Lewis and Clark National Forest twenty-one years ago. But beyond that consideration of personal sentiment there is the fitness of the location within itself as the site of such a memorial. The crest of the mountains; the pass through which the millions will forever go on their ways East and West; the magnificent setting of the peaks which are a symbol of the rugged and upstanding character of the American whose service is thus commemorated; all these contribute to the essential fitness of the place which has been chosen. This great obelisk will stand here like a finger pointing upward, as an incentive to service.

The honor I have of now placing it in the keeping of the United States Forest Service on behalf of the Congress of the United States is a most signal one.

GIFFORD PINCHOT SENDS LETTER TO REGIONAL FORESTER KELLEY

Dear Mr. Kelley:

I would give almost anything I have to be with you today. To be with you among those mountains, whose peaks I have climbed; over so many miles of which, with my old friend, Jack Monroe, I have carried my pack; in whose valleys I first learned, from Billy Jackson, one of Custer's Scouts, to throw the diamond hitch; and in whose forests, and above them, I killed deer and bear, and elk and goat and mountain sheep. This region holds some of the pleasantest memories of my life.

In view of why you are here, nothing else could keep me away, nothing less could detain me, than the great and difficult task of keeping nearly a million Pennsylvania unemployed, with their families, from the worst of the misery that threatens them during the coming winter. That is my justification, and it is complete.

Theodore Roosevelt was my leader and my friend. He has taken the long, long trail. He has faded from my sight. But his spirit has not faded.

I can still hear him declaring that the public good comes first. I can still hear him asserting that the forest and water problems are the most important internal problems of the United States. I can still catch the echo of his statement that "it is better to help a small man make a living than to assist a rich man to grow richer still." I can still feel his hand on my shoulder as I did when the Forest Service began the first effective regulation of electric utilities in the history of the United States.

I can still thrill to the joy of battle in his eye when he went forward to meet, more than half way, the attacks of the enemies of the people. And I doubt if any other monument that can ever be erected to him would please him more than this, set in the land he loved so well and dedicated to a cause that was nearest his great heart.

But of far more consequence than any personal friendship whatever is the fact that Theodore Roosevelt, who embodied, as few other men have ever done, the spirit of East and West in the highest form of both, was the friend of conservation and forestry. Under him the United States Forest Service grew to be the undefeated champion of the rights of the people. While he lived, no man, no interest, no politician, and no combination of them could make it afraid.

Those were glorious days. In them Theodore Roosevelt gave us most of the National Forests. He not only created them, but he defended them. When the sheep men, now their friends, attacked them, he stood like a rock. When the mining men, the lumbermen, struck, he caught and stopped the blow. When they mobilized all the resources of venal politics against the National Forests, his shield blunted their arrow.

Neither forestry, nor conservation, nor any question of the public's rights was remote enough to be passed by. When the crooked special interests who preyed upon the people advanced their pleas, he knew the field, he knew the facts, and he met and defeated them. His record then is the proof of where he would have stood today.

Those, I repeat, were glorious days. In them the Forest Service, to which I had the great honor to belong, was facing a hostile world. Public opinion in the West was mainly against forestry, the Forest Service, and the conservation of natural resources. It was Theodore Roosevelt's support that brought us through.

The fight for forestry in those days was a clean-strain fight, and because it was clean-strain it won a notable victory. But great as were those days, the greatest days of forestry in America are still ahead. The greatest task is yet to be performed. The greatest victory is yet to be won.

That task is the saving of the three-quarters of our forests that are in private hands, whose destruction goes on unchecked.

That victory is the rescue of forestry from the leadership of commercial interests whose chief purpose is to see that forestry fails, that it is never really applied to the lands they own.

Who can doubt where Theodore Roosevelt, the greatest friend forestry in America ever had, the establisher of conservation on this continent, would have stood in this vast conflict? His word to the foresters of America in substance would have been this:

"Choose ye this day whom ye will serve."

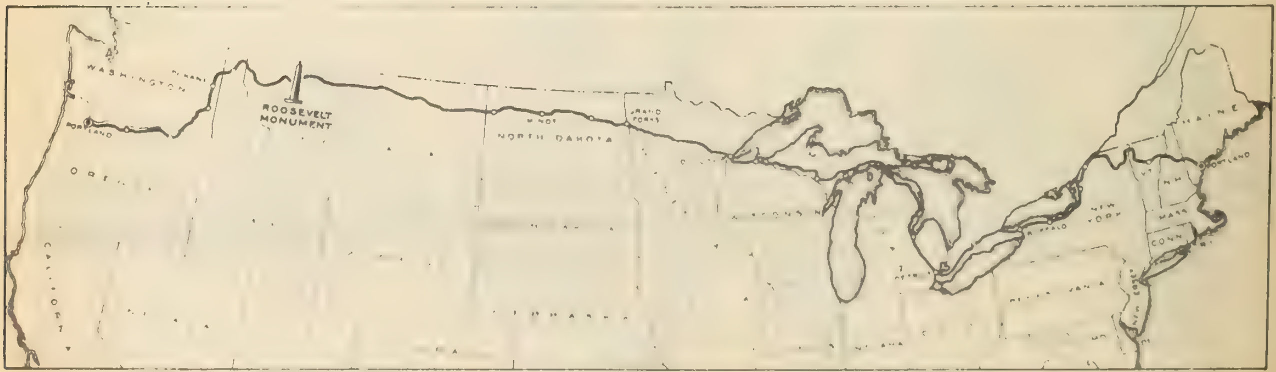
Choose between the forests and their devastation. Choose between the people, to whom God gave this continent, and those interests whose enormous concentrations of resources, of money, and of political power, have already checked, and now threaten to destroy, the essence of liberty in America.

As for me and my house, we stand for the forests, for Theodore Roosevelt, and the people.

THE MAN

GOV. ERICKSON
HON. SCOTT LEAVITT
MR. KELLEY
MR. SHERMAN

THE MONUMENT


WASHINGTON
PORTLAND
ROOSEVELT
MONUMENT
MINOT
NORTH DAKOTA
GRAND
FORKS
NEW
YORK
BUFFALO
MAINE
VT
NH
MASS
CONN
PORTLAND

THE ROAD

Let us never forget this tremendous saying of the leader we commemorate today:

"It is of little use for us to pay lip loyalty to the mighty men of the past unless we sincerely endeavor to apply to the problem of the present precisely the qualities which in other crises enabled the men of that day to meet those crises."

Sincerely yours,
(Signed) Gifford Pinchot

THE SUMMIT OBELISK

(Editorial in Great Falls Tribune)

At Summit on the continental divide there was dedicated on October 25 an obelisk in honor of Theodore Roosevelt. It is a memorial not so much to the man as to the conservation policy he fathered and championed. In that day the immediate battle concerned the wise use of the public domain for the benefit of the entire public. Out of this has grown the policy, recognized by all Federal administrations, of wise development of the public domain.

When we say public domain we mean all the lands and resources whose title rests in the United States. And when we say development we mean making these areas and natural treasures available to the people. It is simply the principle that conservation must be based on such use that the people today, tomorrow, and always may enjoy the great national heritage.

Summit is along the southern border of Glacier Park. Not only does this point separate the waters of the Atlantic from those of the Pacific, but it divides two National Forests, the Lewis and Clark and the Flathead. Out of Federal conservation, so bitterly fought at first, has come the present Forest Service and, we believe, the more generous setting aside of outstanding scenic areas as National Parks.

But that is not all. Modern conditions demand highways. As an economic need the country embraced a policy of building roads. The program contemplates a network of highways linking all the main towns and connecting all parts of the country. These highways are being chiefly built through Federal-State cooperation. Other roads, such as in National Forests, National Parks and on Indian Reservations, are financed entirely by the United States Government.

In the summer of 1930 the highway along the southern border of Glacier Park was opened to traffic, providing what is for the present the northernmost motor pass over the Rockies in the United States. The building of this road was the dream of years. The need for it was great. At last it was possible to drive a car from one side of the Park to the other.

So in the dedication at Summit the building of highways as part of national conservation will have important place. In fact, it was the construction of this mileage, removing the last barrier on the Roosevelt International Highway, that inspired the erecting of the obelisk. The ceremony emphasized the general conservation policy - to keep and to use for the public benefit.

ROOSEVELT SHAFT COMMEMORATES FOUNDING OF FOREST SERVICE BY LATE PRESIDENT. SITE IS ON TRANSCONTINENTAL ROAD NAMED FOR HIM.

Fifty-odd miles of mountainous country in Montana once divided the continent so far as motorists were concerned. The same stretch at one time was a carefully guarded pass among Indians wishing to keep roving tribes or their enemies from crossing the mountains. Since white people first settled the territory now known as Montana this same short link kept northern Montana people from commuting without some degree of difficulty.

With a highway constructed from Glacier Park station to Belton, tourists now drive entirely across northern Montana. Residents of western Montana and those living east of the Rockies now may visit places that once were hundreds of miles distant, due to the circuitous route necessary to travel because of the missing link in the transcontinental highway.

December 10, 1889, John F. Stevens was first to discover the mountain pass through which the railroad was constructed.

Indians, trappers, and traders for years knew of the pass but it remained for Stevens to locate the defile through which it would be possible to lay tracks for a transcontinental transportation line. Previously it had been reported that Cadotte Pass was the most northerly one in Montana for such a purpose.

Today a group will assemble at Summit, between Glacier Park station and Belton, to dedicate a monument erected to the memory of Theodore Roosevelt, after whom the Theodore Roosevelt highway is named. The Forest Service is sponsoring the events. It is proper that a transcontinental highway stretching from Portland, Me., to Portland, Ore., should be named for the great President. He spent two years on the Montana-North Dakota frontier; his was a great and personal interest in the Forest Service, which now stands as a memorial to his public accomplishments, and Roosevelt not only often visited Montana but he held a strong liking for the Treasure State. ***

Returning from the Pacific, Lewis and Clark learned of Marias pass when they spent five weeks among the Nez Perce Indians. This tribe was friendly with the Selish of western Montana and Clark questioned them on all routes and passes over the mountains. Near headwaters of Marias river, named Maria's by the expedition, the Nez Perces told of a mountain pass that led to the Flathead River. It was described as the defile through which prairie Indians came to raid camps of the more peaceful western red men.***

David Thompson, an outstanding geographer of those days, called what is known as Marias River the Piegan. He traced its source to what he called Duncan's range, in honor of Duncan McGillivray. Another range is shown between the river and Selish lake. He also indicated the position of the lake now called Swan and showed small streams flowing into these lakes from the direction of Marias pass. British museum maps of Thompson's might show Marias Pass because he referred to a place east of Selish lake and leading by a "wide defile of easy passage" to the buffalo plains.

Piegan Indians were known to have had sentries posted at Marias Pass to warn the tribe of approach of Selish and other western Indians. So existence of the pass was known to Indians and white alike before and after the Lewis and Clark expedition. Blackfeet and other eastern tribes did much to keep Marias Pass from being used for several years, but finally Robert Greenhow wrote "Memoir Historical and Political on the Northwest Coast of North America and the Adjacent Territories," and he showed a trail he called the "route across the mountains," beginning at the great falls of the Missouri River and leading across Tansey, the Teton River to the Marias. Following the Marias, the route was then described as joining the trail through Marias pass canyon but not turning northwest as at present, thereby leading the travelers to south of Flathead Lake. This mapped route led to David Thompson's Selish house vicinity. Greenhow was librarian of the Department of State and had access to all government records. ***

The St. Paul, Minneapolis & Manitoba railroad, now the Great Northern, reached Helena in 1887, and the next year rails were extended to Butte. James J. Hill, the "empire builder" of the northwest, who, had he lived, would have seen his dream of a railroad to San Francisco come true within the next few months, was anxious to push his line west to the Pacific, and his principal assistant engineer, John Frank Stevens, 36 years old, was assigned the task of finding a route. This was in 1889.

Stevens started from Fort Assinniboine near Havre and drove to the Blackfeet Indian agency on Badger creek, where he hoped to find Indians who would guide him to Marias pass. Coonsah, a renegade of the Flathead tribe, then living principally with the Blackfeet, was employed by Stevens. He was notorious and, apparently, had been ousted from his tribe, later being killed at Dixon during a quarrel. Stevens set out on snowshoes with Coonsah, following Doty's trail, surveyed 35 years previously. They approached the summit of Marias Pass late in the day of Dec. 11. About six miles from the top the Indian refused to continue. Stevens feared a windstorm might close the pass and went on alone over the low summit and down Bear Creek far enough to make sure it drained toward the Columbia River. He stopped at the point now designated as Marias Pass for the night, built a fire, and paced the night through to keep warm and keep from falling asleep and chancing death from freezing.

With the dawn, Stevens hurried back to the first camp and found the lazy Coonsah nearly frozen, with his fire extinguished. They returned to the agency and Stevens left for St. Paul with news that Marias Pass, at an elevation of 5,216 feet, would provide a water level grade without a tunnel for the railway. He also brought news that the pass was in a direct western line from the then western terminus.

The next spring the survey was completed down the western side of the Rocky Mountains and the rails were pushed to Kalispell by Jan. 1, 1890. In 1893 the first transcontinental train whistled its way through the canyon that once was the battleground of Indian tribes and the barrier to prospectors, traders, trappers, explorers, army engineers, and others. – From Great Falls Tribune

IN THE OLD DAYS WITH ROOSEVELT

Roosevelt, as well as Stevens, was vitally concerned with Montana development, but in another way. Whereas Stevens was interested chiefly in railroading, Roosevelt turned his attention to the livestock industry, forestry and to irrigation. Roosevelt's political life was well started when he came West. He had been graduated from Harvard University in 1880 and spent several months traveling in Europe. As a child he had delicate health and his early education was at home and out of doors. Returning from Europe, Roosevelt studied law at Columbia university but soon quit to enter politics. As an opponent to Tammany hall, he was elected to the New York legislature in 1881. He served until 1884 and, though he was the youngest member of the House, he became known as the leader of the Republican minority.

In 1884 Roosevelt went West to buy a ranch and remained at Medora, N. D., for two years. There he was recognized as a cultured leader, but his dress, habits, and action became typically western. He looked like a cowboy and traveled with cowboys, enjoying their company to the limit. He was their friend and they were his friends. Many an old-timer of North Dakota and Montana remembers associations with Roosevelt or can testify to his popularity in the cow country.

In the two years he spent in the Dakota-Montana country, Roosevelt not only befriended the West but he acquired a knowledge of this country that he displayed time and again while President. The West greatly benefited by Roosevelt becoming President and no more fitting tribute to his accomplishments for the West or for the gratitude of the western people could be paid than is exemplified in the obelisk memorial now being dedicated at Summit.

Interest of Roosevelt's grandfather and great uncle in the West may have been partly responsible for Teddy's decision to live in this country for a time. A gulch in the vicinity of Helena was named for them

That Teddy Roosevelt was fond of life in the West and his western experiences is seen in a book he wrote on hunting. He and other cowboys often preferred wild game to meat from their steers and hunting was a favorite diversion. Roosevelt was particularly taken to hunting in Montana and Wyoming and stories of his various trips are recounted in "Hunting Trips of a Ranchman" and "The Wilderness Hunter," which have been reprinted by G. Putnam's Sons in one volume under the title, "Roosevelt's Hunting Adventures in the West."

Referring to his hunting episodes in the West is the story told about Roosevelt and John Willis, who formerly lived at Thompson Falls. Roosevelt wrote a letter to Willis, signing it, "Theodore Roosevelt." The letter follows:

"I have heard that a white goat is the hardest animal in the Rockies to find and the most difficult to kill. I have heard also that you are a hunter of note. If I come West and go hunting with you, do you think I could kill a white goat?"

Willis wrote on the back of the letter:

"If you can't shoot any better than you can write, I don't think so."

The letter now is at Roosevelt Memorial Hall in New York.

A few days later Willis received a wire from Roosevelt: "Consider yourself engaged. Will arrive July 20."

Willis and Roosevelt made a trip to the Big Hole basin in western Montana late in August. Roosevelt tells of his experience in these words:

"The mountain fell away in a succession of low cliffs, and we had to move with the utmost caution. In letting ourselves down from ledge to ledge, one would hold the guns until the other got safe footing, and then pass them down to him. In many places we had to work our way along the cracks in the faces of frost-riven rocks. At last, just as we reached a little smooth shoulder, my companion said, pointing down beneath us: 'Look at the white goat'!

"A moment or two passed before I got my eyes on it. We were looking down into a basin-like valley surrounded by high mountain chains. At one end of the basin was a low pass, where the ridge was cut up with the zigzag trails made by countless herds of game which had traveled it for many generations. At the other end was a dark gorge, through which a stream foamed. The floor of the basin was bright emerald green, dotted with darker bands where fir trees grew; and in its middle lay a small lake.

"At last I caught sight of the goat, feeding on a terrace rather over 125 yards below. I promptly fired but overshot. The goat merely gave a few jumps and stopped. My second bullet went through its lungs; but fearful lest it might escape to some inaccessible cleft or ledge, I fired again, missing; and yet again, breaking its back. Down it went and the next moment began to roll over and over from ledge to ledge. I greatly feared it would break its howns, an annoying and oft-recurring incident of white goat shooting, where the nature of the ground is such that the dead quarry often falls hundreds of feet, its body being torn to ribbons by the sharp crags. However, in this case the goat speedily lodged unharmed in a little dwarf evergreen.

"Hardly had I fired my fourth shot when my companion again exclaimed: 'Look at the white goats!' Glancing in the direction in which he pointed, I speedily made out four more goats standing in a bunch rather less than 100 yards away, to one side of my former line of fire. They were all looking up at me. They stood on a slab of white rock, with which the color of their fleece harmonized well; and their black horns, muzzles, eyes, and hoofs looked like dark dots on a light colored surface, so that it took me more than one glance to determine what they were. White goats run invariably up hill when alarmed, their one idea seeming to be to escape danger by getting above it; for their brute foes are able to over-match them on anything like level ground but are helpless against them among the crags.

"Almost as soon as I saw them these four started up the mountain, nearly in my direction, while I clambered down and across to meet them. They halted at the foot of the cliff, and I at the top, being unable to see them; but in another moment they came bounding and cantering up the sheer rocks, not moving quickly but traversing the most seemingly impossible places by main strength and surefootedness. As they broke by me, some 30 yards off, I fired two shots at the nearest, an old buck, somewhat smaller than the one I had killed; and he rolled down the mountain dead. Two of the others, a yearling and a kid, showed more alarm than their elders, and ran off at a brisk pace. The remaining one, an old she, went off 100 yards and then deliberately stopped and turned around to gaze at us for a couple of minutes! Verily, the white goat is the foolhen among beasts of the chase."

Roosevelt hunted with Willis in the Bitter Root mountains and later was in northwestern Wyoming in what is now Yellowstone Park. To prove his ability as a marksman, he writes the following account of his hunting trip for elks, called wapitis, by him, in northern Wyoming:

"I fired 58 shots. In preference to using the knife, I generally break the neck of an elk which is still struggling; and I fire at one as long as it can stand, preferring to waste a few extra bullets rather than see an occasional head of game escape. In consequence of these two traits the nine elk I got (two running at 60 and 80 yards, the others standing at from 30 to 100) cost me 23 bullets; and I missed three shots - all three, it is fair to say, difficult ones. I also cut off the heads of 17 grouse with 22 shots; and killed two ducks with 10 shots - 58 in all. On the Big Horn trip I used 102 cartridges. On no other trip did I use 50."

But Roosevelt's activities in North Dakota and Montana as a stockman, and other hobbies he followed, made him a character of the West in the brief time he was a resident of this region. As far as is known, he was the first man to arouse the cowboys and stockmen generally to the defense of their country. It was the time when war with Mexico loomed. Roosevelt suggested that if war occurred he would enlist and head an entire company of cowboys. Later he gained fame in command of the Rough Riders at San Juan hill in Cuba during the Spanish-American war.

One of the most outstanding events in Roosevelt's life was when he trailed and captured three horse thieves and then took them 300 miles overland to the nearest sheriff. ***

Roosevelt and his two ranch managers, Bill Sewall and Wilmot Dow, returning from a deer hunt tied their boat to a high tree. The next day Sewall found the boat was gone.

Roosevelt had little doubt as to who stole the boat. There was only one other boat on the Little Missouri and that was a small flat bottom scow owned by three tough characters who lived in a shack about 20 miles above Elkhorn. They had been suspected for some time and expectation was that they would soon skip the country before the vigilantes got after them. Upon inquiry it was learned their shack was deserted. "Redhead" Finnegan was the leader of the three.

Roosevelt was determined to give chase but Sewall restrained him with the remark that if the thieves could not travel by horses he could hardly expect to. Sewall and Dow built a flat bottom boat in three days. Roosevelt had to have access to the other side of the river, where his some 50 saddle horses were ranging.

A blizzard that had been raging a day or two moderated, and Roosevelt, hoping a thaw had started and determined to start after the thieves, loaded the boat with a two weeks' supply of flour, coffee and bacon and started down the river.

The thermometer dropped to zero but there was plenty of firewood and ample game for evening meals. Late the third day, when rounding a bend, they saw their boat moored against a bank, and out of the bushes a little way back smoke of a campfire curled up through the frosty air.

"There's your boat!" cried Sewall. "Get your guns ready. I'll handle the boat."

They flung off their heavy coats. Sewall was in the stern, steering the boat toward shore. Dow was at Roosevelt's side in the bow. Roosevelt was first ashore, running up behind some bushes to cover the landing of the others. Dow was beside him in an instant and Sewall was fastening the boat.

Rushing the camp, Roosevelt and Dow found a half-witted German. The other two were hunting, and the three made ready for their reception. The third man was a half-breed, named Bernstead. Sewall guarded the German.

About an hour before sunset they heard Finnegan, and his companion crawling through stunted bushes at the foot of a clay hill. The men started to go upstream. They were looking for smoke from the fire. Seeing it, they started through the sagebrush. Ordered to throw up their hands, the half-breed obeyed, but for an instant Finnegan hesitated. Roosevelt walked toward him.

"You thief, put up your hands," commanded Roosevelt.

Finnegan dropped his rifle with an oath and raised his arms.

"If you'll keep quiet," said Roosevelt to the three, "and not try to get away, you'll be all right. If you try anything we'll shoot you."

Sewall took an old double-barrel 10-gauge Parker shotgun and stood guard. Dow was a little uneasy about the gun. "The right hand barrel goes off very easily," he warned Sewall. "It's gone off with me several times when I didn't mean it to, and, if you are going to cover the men with it, you better be careful."

"I'll be careful," remarked Sewall in his deliberate fashion, "but if it happens to go off, it will make more difference to them than to me."

Roosevelt took their boots with the idea that an escape over the cactus-covered country would be unlikely. He gave them a buffalo robe in exchange and the three crawled under it for the night. Captors and captives started down the Little Missouri the next morning with the two boats. The cold was bitter and toward the end of the day they came upon the great Ox-Bow jam that passed Elkhorn the previous week. They couldn't paddle upstream against the current

Day after day followed and provisions became short. They found no game in that barren region. Roosevelt found good reading in Tolstoy's "Anna Karenini" and Matthew Arnold. He also read "The History of the James Brothers" which belonged to the thieves.

Finally Roosevelt and his partners held a conference. It was suggested they let the thieves go free.

"We can't shoot them," said Roosevelt, "and we can't feed them. It looks as though we'd have to let them go."

Sewall disagreed. "The flour'll last a day or two more," he said, "and it's something to know that if we're punishing ourselves we're punishing the thieves also."

"Exactly!" cried Roosevelt. "We'll hold onto them."

Two days later Roosevelt and Dow found an outlying cow camp of the Diamond C ranch, where Roosevelt got a horse. He rode 15 miles to the ranch of Jap Holtz at the edge of the Killdeer mountains. There he got supplies and a prairie schooner, hiring the rancher to drive it to the camp by the icebound river. Sewall and Dow, thoroughly provisioned, remained with the boats. Roosevelt, with the thieves, started for the nearest jail at Dickinson.

It was a two-day journey over bleak wastes and across rivers where ice was so rough they had to take the wagon apart to cross. Roosevelt couldn't take his eyes off the thieves for an instant and didn't trust the driver. So he trailed behind the wagon with his Winchester. Hour after hour he trudged through ankle-deep mud, hungry, cold, and thoroughly tired.

The night was spent in the squalid hut of a frontier settler, but Roosevelt didn't dare sleep. He crowded the prisoners in the upper bunk and sat against the door all night with the rifle across his knees. "What I can't make out," said the rancher, "is why you make all this fuss instead of hanging 'em offhand."

Roosevelt grinned, and the next evening, after a 300-mile journey, deposited the three prisoners in the Dickinson jail. The justice of the peace who indicted the thieves was Western Starr. He was an old acquaintance of Roosevelt, a classmate at Columbia law school.

Back at Medora, near the Roosevelt ranch, there was only one opinion over Roosevelt's adventure, though it was variously expressed.

"Roosevelt," said his friend, John Simpson, a Texan, who was owner of the "Hash Knive" brand and one of the greatest cattlemen in the region, "no one but you would have followed those men with just a couple of cowhands. You are the only real damn fool in the county."

The thieves were tried at Mandan in August, 1886. The German, known as "Dutch Chris," was acquitted, but Finnegan and Bernstead were sentenced to 25 months each in the Bismarck penitentiary.

Finnegan glared at Roosevelt as he passed him in the courtroom.

"If I'd had any show at all," he cried, you'd have sure had to fight." -

From the Great Falls Tribune

Using a bronze trowel especially made for the occasion by the Anaconda Copper Mining company, Miss Corrine Roosevelt Alsop, grand-niece of the late President Roosevelt, officiated at the laying of the cornerstone of the Roosevelt Memorial Aug. 23, 1930.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER

Theodore Roosevelt

Vol. XV, No. 47 Washington, D. C. November 23, 1931.

RADIO

By Roy Headley, Washington

The "Minutes" of the Spokane equipment standardization meeting include an up-to-the-minute record of headway made in development of radio equipment for National Forest use.

One new set, weighing with varying battery power from 25 to 40 pounds, will be ready for purchase by January 1, 1932. The exciting thing about this set is that it receives and transmits by both voice and code, thus more than vindicating Beatty's confidence that it is possible to transmit voice by such sets. Beatty did not indicate any optimism as to transmission of voice by anything lighter than his 79 pound set. All these weight figures include batteries, antenna, containers, and everything.

A feather-weight set, weighing less than 10 pounds, will be ready for purchase April 1, 1932. This set receives voice but transmits code only. The safe radius of communication is given as 10 miles. The estimated cost is $60, or less, per set. There is little hope that a set of this weight can ever be made to transmit voice.

To determine the practicability of this feather-weight set an average man was taken from a road crew. The demonstrator set up the set and took it down again, showing the road man how to turn the knobs, etc. The road man then fooled with the set about an hour, alone. (The demonstrator evidently knew his training onions.) The road man was then taken out in the brush and given a message written in dots and dashes and told to send it to a lookout station. He put up the set in 18 minutes. Had some unnecessary trouble with brush. He sent a code message for 8 men and location and type of fire. The station received it, transmitted it by telephone to the dispatcher, who replied, and the station retransmitted it to the road man, who then put away his outfit - all in 44 minutes.

One most important development is a scheme of using lookout men as central station men, thus avoiding the cost and complications attending the previous plan of using a central station set and operator for the Forest. Under this new plan a lookout man using one of the 25 to 40 pound sets would talk to and receive code from any man working within, say, 10 miles of the lookout station, the latter using one of the feather-weight sets. The lookout man would, of course, have his telephone line to ranger district or forest headquarters. A little reflection will indicate the importance this idea should have on cost of using radio, complications from congestion of communication traffic, and a number of other important points.

Mr. Simson, who has succeeded Mr. Beatty on the radio job, is quoted as saying that he does not think it appropriate to attempt further improvements in the sets until they are suggested by actual use. This means particularly that it is not appropriate to try now for further reduction in weight of sets.

At the meeting there was discussion of plans for the purchase of perhaps 50 of the 25 to 40 pound sets and 150 of the feather-weight sets for use in Regions 1, 6, 5, and 4 next year. Looks like we are stepping out. The only trouble is, Where is the money coming from at this particular time?

Perhaps developments have gone far enough for Region 8 to invest in equipment which will supply communication for long distances where fire control requires communication, but investment required has seemed to preclude a telephone system. Perhaps also we are ready to supply the badly needed communication between shore and the boats used in Region 8 administration.

A need has developed within the last year for communication between a central or base station in southern California and patrolmen moving in cars or other vehicles. Presumably by next year this need will have been met either by use of equipment of our own development or possibly by the temporary arrangement which it is understood has been made with the police radio system in use in southern California.

As always when a new tool or device comes to the front, it is important to remember its limitations. Radio has a legitimate use in forest protection and a worth-while contribution to make to our protection objectives. Let us hope that we fit radio into its proper niche as rapidly as practicable but that in doing so we carefully refrain from going off half cocked with any cure-all or panacea type of thinking. Radio will not put out the fires, as some excited newspaper stories seem to indicate; nor will it replace telephone lines to any material extent. It does not need to do anything like this in order to make a worth-while contribution to forest protection.

Region 6 is certainly to be congratulated for the ground the organization seems to have covered in the last few months in development and application of radio to meet our special purposes.

PREPARATION FOR A RIOTOUS OLD AGE

By E. H. MacDaniels, R. 6

Not having seen nor heard of anyone except Loving who had the nerve, or interest, to make a guess on our Retirement Act, and what it means, here goes -

The following table, which seems to be fairly authentic, stimulated the writer to do some figuring on what can be expected from the retirement fund when, spavined, knee-sprung, and sore-shouldered, he is finally turned out to grass:

Age	Straight Annuity	Refund Annuity
60	9.26 per cent	8.01 per cent
65	10.80 " "	9.00 " "
70	12.90 " "	10.25 " "

That appears to mean that if at the age of 70 a man puts $1,000 into a straight annuity, the insurance company will pay him 12.9 per cent on it, or $129 per year, until he does not need it any more. If he quits at the age of 75, he will have received $645 and the company is $335 to the good; if he drags along until he is 85, he will pull down $1935, and the company can just laugh that off. If he decides on a refund annuity, he gets 10.25 per cent on his money, or $102.50 per year for every thousand he puts in. Should he pass out at the comparatively early age of 75, he receives $512.50, and the company pays $487.50 in the regular yearly installments to his beneficiary or estate,- all of which is very fair, but just how many thousands will most of us have coming at the age of 70?

To save figuring, let us forget all about that two and one-half per cent deduction up to 1926 and take the simplest possible case - say, a Supervisor who, in 1926, was getting $3600; and was 50 years old. He never got a promotion, but stayed on the job until he was eased out at the age of 70. Three and one-half per cent of $3600 is $126,- the annual salary deduction; $1 per month or $12 per year comes out of that for the $900 fund, leaving $114 to accumulate. In 20 years an annual payment of $114, with compound interest at 4 per cent comes to $3397.20-- that is the Supervisor's stake, unless he has been a thrifty sort of cuss and provided himself with a three-acre farm and a cow. Invested in a straight commercial annuity at the age of 70, this wad will bring him 12.9 per cent of $3397.20 or $438.24, which, added to the $900, gives him a yearly income of $1338.24 to squander. If he elects to play a little closer to his vest and takes the refund annuity, he will get $1249.21 per with which to loiter through the declining years of a sunny old age.

P.S. The accumulated two and one-half per cent deduction prior to 1926, not included in the foregoing estimate, should cover maintenance and operating charges on store teeth and spectacles.

P.S. No. 2. If anyone else thinks he can improve on the above, I'd like to see his figures!

A GIRDLED SHORTLEAF PINE

By R. R. Reynolds, Southern For. Exp. Sta.

It is a common occurrence to observe trees larger in diameter at ordinary stump height than at ten and twenty feet above the ground. Some of them, especially hardwoods, are very much larger. It is just natural for trees to grow in this way. And when this order of things is turned around or reversed on a tree the tree naturally becomes a curiosity, especially when the tree is free from gall or other abnormal growth and even more so when the tree is a shortleaf pine. It compares favorably with one of Ripley's "Believe It Or Nots." But measurements with actual pictures to back up the measurements should be proof enough.

During the taking of sample plot data in Hempstead County, Arkansas, this past summer a shortleaf pine was found that was actually inches larger in diameter at three, ten, and twenty feet in height than it was at the ground or at 2.4 feet in height. The measurements in diameter outside bark at the different heights were as follows:

Diameter outside bark at ground = 18.2 inches
" " " 2.4 feet = 17.4 "
" " " 3.2 feet = 19.4 "
" " " 10.0 feet = 19.0 "
" " " 20.0 feet = 18.6 "

Now for the answer to this "riddle." The shortleaf pine in question had been almost completely girdled. But somehow it had continued to live and grow for ten years following the girdling. However, the growth during this 10-year period had been limited almost entirely to the portion of the tree above the girdle. Water could apparently go up the tree, but very, very little food could get down below the cut.

The measurement, quoted, that was taken at 2.4 feet above ground was taken four inches below and the measurement at 3.2 feet was taken at four inches above the girdle, so that the abnormal growth right near the cut itself was not considered.

Increment borings were made both above and below the girdle. The cores of wood taken out of the tree in this manner showed that during the 10-year period following this girdling the growth rings were of practically the same width above the cut as they had been for the past ten or more years before the girdling. The width of the growth rings below the cut, however, showed a vast reduction. The rings showed up as merely small, fine hair lines and the width of the ten years' growth following girdling was not equal to one year's growth before girdling.

It was interesting to note that the wood put on above the girdle during the 10-year period following girdling was all real soft and very spongy, and also that there was apparently no resin whatsoever present in the wood. The wood put on below the cut was apparently normal.

The tree at the time of its death a year ago was 34 years old.

Now you tell one and prove it!

MOUNTAIN MEADOWS OR TIMBER?

By C. S. Robinson, Sequoia

Reference is made to P. A. Thompson's "Plea for the Prairies" in the Service Bulletin of October 12.

I, too, have been checked by the fear of the "hand of authority" when I wanted to cut down scattered misshapen trees or clumps of lodgepole pine (P. contorta var. murrayana) that were invading a small meadow area badly needed for horse feed. Again, I have longed to trim back the conifer reproduction, along with willows and alders but have not felt sure that this improvement would be in line with proper interpretation of the present forest policies.

Meadows and grasslands not only often represent the best possible use but also an important asset in planning for the future major needs of the adjacent areas. I venture to state that 75 per cent of our administrative sites and public pastures could be considerably improved in appearance and carrying capacity by the removal of scattered individuals, "islands" of coniferous reproduction, and down timber.

I wish Mr. Thompson could ride further afield, but I wish still more that someone would define FORESTRY in its present-day meaning, keeping in mind the Secretary of Agriculture's splendid message of February 1, 1905.

RAIN IS COMING!

By E. N. Munns, Washington

Rather discouraged are you fellows by the fact that the fire losses still are high? Wondering why the reproduction is so slow becoming established on those cut-over areas? Getting blamed because there is only enough feed for one cow where two sheeped before?

Well, never mind, there is cheering news for you. The Pacific Ocean will soon be getting cooler, in fact there are signs that the water may become quite cool in another 7 or 8 years. And when the Pacific cools off, get ready to move your belongings from the lowlands to a point of safety above the high water line.

As you all know, studies have been made now for some 15 or 20 years of ocean temperature, and a correlation has been found between the temperature of the deep water off shore and the rainfall at San Diego and other southern California towns. So strong is this correlation in fact that predictions of the annual rainfall have been uncannily close. So close have they been that the gas company can roughly figure on the amount of gas that will be used by quarterly periods. (This does not apply to Washington, D. C.)

For 1931-32, the deep-water forecasters are predicting a dry winter for the benefit of the unemployed in southern California, but the most hopeful thing is that following years will show surpluses instead of deficits in the precipitation and that flood years will occur about 1940.

Now before I hear from the scoffers let me add that the predictions found over a period of 18 years (1914 to 1931 inclusive), have been between 78 per cent and 91 per cent of the actual. So if this tale sounds unreasonable, remember that these forecasts are made for from 6 months to several years ahead of the time the precipitation fell, and that the Weather Bureau forecasts of only 24 hours ahead do not show much stronger reliability than this.

So, while the soot-bedraggled bunch on the Kaniksu prevent that other acre from burning up, just think of the sweet time ahead when it will rain all summer and keep campers at home. When that time comes, and to keep your mattocks in shape, possibly you will be able to plant trees all summer on the burned areas.

PAUL BUNYAN

Paul used to crawl around on his hands and knees before he learned to walk. He was crawlin' one day in a clearin' near the woods and holdin' a 4-foot pole his dad used for pullin' stumps when a five year old moose that some hunter had wounded came bustin' out of the woods and charged straight for Baby Paul.

The baby just laughed, rammed one end of the pole in the ground and caught the moose plumb in the middle with the other end and split him from front to rear as far as his bit of a tail, which fluttered in the wind. This made him laugh--the baby, not the moose.

Now it seems they was a cougar chasin' the wounded moose account of the blood that he could smell, an' he came boundin' out, landed on the moose, and got hung up on his horns so he couldn't move. Baby Paul took a chew of fine cut and was watchin' the two of 'em when a big old timber wolf came sneakin' up and made a grab at the moose. The cougar was mad clear through, grabbed the wolf by the neck and got lockjaw, so there was three of them.

Paul's maw found him there, and brought him home. The pole with its load was just a mite too cumbersome for Baby Paul to handle so he left it. Tom Larkin 's the one told me about this, and I don't doubt but Tom had his facts right. He didn't say just where this happened, but it was somewhere down (or up) in Maine.

YE EDITOR DISCOVERS

F. J. Hallauer, who has charge of the requirements phase of the Forest Survey, tells of a recent visit he had with Professor G. F. Warren of Cornell. Professor Warren recalled a statement he published in 1925 with reference to building construction. That was when the building boom was going strong and four years before any positive sign of abatement. His statement was a warning that real estate was then (1925) easier to sell than it would be after the boom was over, and the banks would then be put to a severe test.

Professor Warren's method of analysis is suggested by the following statement published in February 1927.

"During the period of inflation, from 1916 to 1920, the average buying power of wages, after buying the fixed quantity of food, was 40 per cent below the five year pre-war average. In the five years of 1921-25, it was 44 per cent above pre-war.

"The period of inflation during the Civil War resulted in such a low buying power of wages that building was discontinued. When deflation occurred, wages had a high buying power because food was very cheap, and because of the shortage of buildings due to the discontinuance of building during inflation a building boom resulted. Building was overdone. Building materials were cheap for six years, after which recovery occurred. Thus far the Civil War description has been repeated."

Early in the year 1929 Professor Warren stated that the break was near although he could not say whether it would occur that year. With such a record, it is interesting to consider his further predictions that recovery from present depression is certain, but that it may not come before 1935.

- - - - - - -

At least one municipality believes in watershed protection. Last summer a forest fire was discovered on the Wasatch National Forest in a portion of the watershed upon which the town of Evanston, Wyoming, depends for its water supply. Realizing the importance of preserving this watershed, the town authorities sent a crew of men to fight the fire and paid and fed them for the duration of the fire.

- - - - - - -

A crew of men is now working on the Shoshone National Forest to repel an invasion of the Douglas fir bark beetle, which has appeared in the timber stands along the North Fork of the Shoshone River, adjacent to the Cody road to Yellowstone National Park. The attack of bark beetles is believed due to the weakened condition of Douglas fir trees following repeated defoliations from the spruce bud worm. The bark beetle was discovered in the North Fork area about a month ago by J. C. Evenden, of the Bureau of Entomology.

In order to meet the situation, a control project was organized immediately. This is being handled by logging engineer J. A. Donery of the Regional Office. Rangers Hugh E. Martin of the Bighorn and Roy L. Williams of the Harney have been detailed to assist. A crew of about fifteen men has been employed and will probably complete the clean-up work this fall.

- - - - - - -

It is understood that when, last summer, the State of Minnesota very materially reduced the pay of fire fighters the number of fires decreased proportionately.

- - - - - - -

Approximately 30 employees in the Washington office of the National Park Service, several of whom have been in the office since it was inaugurated, recently received checks from the estate of the late Stephen Mather, former Director of the Park Service.

Mr. Mather in his will directed that $10,000 be distributed among those in his office in appreciation of their loyal efforts in the organization of the Service. There were only minor differences in the sums received by the thirty who served with the former Director.

- - - - - - -

The Fifth Pacific Science Congress which was to have been held in Vancouver, British

Columbia, in 1932 has been indefinitely postponed in view of the unsettled conditions in the Pacific region. There is a possibility that the Congress will be held in 1933.

OUR BIG TREE DEPARTMENT

RATTLESNAKES

Some Forests boast of having the biggest juniper, some of having the best ranges. I am going to allege that the Idaho has all other Forests in the Region beat for rattlesnakes. It has been said that the South Fork of the Salmon River on the Idaho produces a lot of rattlesnakes. During less than a day's trip in the South Fork recently, our party killed five rattlesnakes. I believe this is the record for R-4. - C.N.W. in R. 4 Bulletin

- - - - - - - -

IN REGARDS TO RATTLESNAKES, RANGER MCDONALD SAYS:

No endeavor is made to rank the Fishlake in the lead on rattlesnake production of Region 4, but I will assert there are altogether too many around the Belknap R. S. The first morning after transfer to this station, my youngsters became acquainted with a very large one at the garage. Not knowing what it was, they attempted to capture it. One of them threw a small pail of water on it, while the other was trying to get hold of the "hind tail that buzzed," so the little girl stated. Apparently the water drove the snake into the brush where it was afterwards killed. - Fishlake News.

- - - - - - - -

COME AGAIN -- R-4!

C. N. W. in the June 29 issue of the Daily News, R-4, hangs up 5 rattlers in one day as a mark to shoot at.

Shucks, C. N. -- "You haven't been no place and seen nothing." Listen! While riding on the spring roundup along the Missouri River-breaks about the year 1900, I came across a wash in a sandstone formation. This wash was about 30 feet deep and 60 feet in diameter. The walls for 10 feet up from the bottom were honeycombed and literally hundreds of rattlers occupied these holes. The bottom of the wash was a seething mass of rattlers, appearing two or three feet deep. Four bombs, made by wrapping baling wire around 10 sticks of dynamite with fuse and caps attached, thrown into the wash sent the whole mess to the "eternal bow-wows." - G. A. Smith, R. 1 Bulletin

- - - - - - - -

GREAT SNAKES!

If there had not been witnesses, and the narrator didn't have a reputation for sobriety, the following snaky incident would remain unrelated.

All this loose talk about rattlers doesn't mean a thing to us Nevadans. C. N. W. and party dispose of 5 rattlers in less than one day. (DAILY NEWS, R-4, June 29.) Then comes G. A. Smith in the Northern Region News and says he saw "literally hundreds of rattlers" - in some place in Missouri. Shucks, G. A., you'd orter counted 'em! Maybe some of your readers are from the same State!

Now just try this on your mandolin.

D. C. Robison, prominent sheep permittee on the Nevada N. F., together with two of his employees, while on their way to the home ranch on October 1, 1924, and at a point in Spring Valley approximately a quarter mile from the foot of Connors Pass on the east side, heard a terrific buzzing sound, which they mistook for bees. They stopped to investigate and on approaching closer to the source of the noise were startled to see great coils of snakes of all sizes writhing and twisting together near a small hole or cave in a hill side. The men went for shot guns and shells, and all three started a bombardment. After the slaughter they counted 175 snakes, all dead as door nails. All three shot repeatedly into the cave where vast numbers of snakes could be seen and occasionally would come out, the while the cave was filled with the rattling of the snakes. Naturally none of the party entered the den, so no count of the dead ones in there could be made.

An interesting feature is that not all of these snakes were rattlers, some being of the harmless variety. Now wait a minute, G. A.; that's only half of the story!

These same men, and many others, went back scores of times during the ensuing 3 or 4 years, each time killing from one to a dozen or so snakes apiece. Finally the den was dynamited and the remaining snakes buried up.

Next, please!

C. A. Beam, Nevada N. F.

RANGER REYES RETIRES

Jacinto D. Reyes, known to his fellow Forest officers as "J. D.," retired from active duty as Ranger on October 31, after having spent 31 years and two months as District Ranger of the Cuyama District, Santa Barbara National Forest.

During these many years of service, any job assigned to Ranger Reyes was always well done. In the earlier days of the Forest Service when funds were scarce and allotments were inadequate, Reyes always took an active part in accomplishing the job whether it be the planting of seedlings, construction of a trail, telephone line, tower for a lookout house, or whatnot, and one could always count on a job under his supervision being efficiently accomplished. Riding over the Cuyama District today and seeing some of the telephone poles cut and split from native material and set up in some of the most inaccessible places make one wonder if "Paul Bunyan" really had anything on J. D. - From an article by S. A. Nash-Boulden in R. 5 Bulletin

SERVICE BULLETIN
CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 48 Washington, D. C. November 30, 1931

THE GRAZING FEE QUESTION

By C. E. Rachford, Washington

The question of a reduction or remission of grazing fees on the National Forests has been one of periodic controversy since the Forest Service attempted to make an appraisal of the ranges beginning in 1922. The conditions which led up to that appraisal are well known, but it may be stated that it was undertaken in fulfillment of a promise made by the Forester to the House Committee on Agriculture. The appraisal was completed in 1924, but its application was postponed year after year up to and including 1927

In 1926 the stockmen made an organized move in opposition to the fees developed by appraisal. This opposition resulted in the appointment by the Secretary of Agriculture of Dan D. Casement as his personal representative to investigate the schedule of fees developed by appraisal. Mr. Casement made the examination and submitted his report. The Secretary of Agriculture held a meeting at Salt Lake City in January 1927, at which time he confirmed Mr. Casement's report but allowed a period of four years over which the fees would become effective; in other words, 25 per cent of the increase in fees would become effective each year from 1928 to 1931 inclusive. The latter year marks the last year of the increase. For the remainder of the term permit period expiring in 1934 the fees in effect for 1931 will apply.

In January 1930 Mr. Frank J. Hagenbarth and Mr. Byron Wilson called on the Forester, explained the general economic situation which confronted the industry, and requested the Forester to take immediate action in remitting the fees for 1930. An investigation disclosed that the depression was an economic one and affected the industry as a whole. It did not show that National Forest ranges had failed to supply the amount of feed paid for by the stockmen and contemplated by the grazing permits. It has been the rule of the Forest Service to grant refunds in all cases where National Forest permittees were prevented by circumstances over which they had no control from securing the use contemplated. Local Forest officers are authorized to recommend refunds in specific cases, and this authority has been exercised to the full limit.

An appeal from the action of the Forest Service in this case was taken to the Secretary of Agriculture, who sustained the decision of the Forester. However, a hearing was held on January 3, 1931, attended by Senators Thomas and Carey with four representatives of the sheep industry. After considering the facts presented the Secretary reaffirmed his previous decision. In reaching a decision the Secretary considered the following facts:

1. The subject of grazing fees has been one of periodic controversy. Definitely to settle the question and secure as much stability in range use as possible the Department caused a comprehensive survey to be made of the whole situation, which was reviewed by the Secretary's personal representative Mr. Dan D. Casement, and final decision reached early in January of 1927.

2. The fees established at that time, after the adjustments recommended by Mr. Casement had been applied, were below the normal value of comparable private lands used for grazing purposes for a grazing season similar to that used on National Forests. The basis of these fees represented a lower figure than the average value of private lands over a period of 10 years. They represented a conservative and fair compensation for National Forest range over a period in which both high and low market values of livestock products were secured.

3. At the time these fees were adjusted the Department agreed that no further increases would be made during the life of the 10-year permit which had gone into effect in 1925 and expires in 1934. As a further measure of stability these permits represented definite contracts with permittees, and it was assumed that, inasmuch as the permittees were guaranteed range for a certain number of livestock for a given period at a given price, they too should be expected to carry out the terms of the agreement.

4. Only about 25 per cent of the livestock producers in the 11 western States are permitted to graze on National Forest land. The other 75 per cent of the producers who are denied permits pay a much higher price for their grazing privileges through taxes, interest, or rent than the 25 per cent grazing on the National Forests. Consequently these stockmen feel the pressure of economic depression even more keenly than do those having National Forest privileges. Furthermore, a large number of these producers who are not privileged to graze on the National Forests are so located that they are extremely anxious to secure grazing privileges and willing to pay the present rates charged on these ranges, but because of the stability granted present permittees and the tenure of their permits it seems inadvisable to disrupt the present system by the introduction of new owners to any great extent. It will therefore be observed that the permittees on the National Forests as a rule are in a much more favorable position than many of the stockmen not privileged to use Government range. Since the depression referred to is a general one and the result of economic conditions, it would seem that any relief which might be extended should be granted to those less favorably situated than the ones now using National Forest range.

5. The depression of which the stockmen complain applies to other industries. The lumber industry is and has been in a deplorable condition for the past few years. Other users of the National Forests are suffering as well as the stockmen. The lumbermen would be very glad if the Department would relieve them of contracts which they have entered into or reduce the stumpage prices which they have contracted to pay. In the interest of consistency it has seemed that a reduction in grazing fees would justify a reduction in other charges made on National Forests. If this action were taken the 25 per cent of the gross receipts on National Forests which goes to the States and counties for road and school purposes would be correspondingly reduced. Any reduction in State revenues from this source would impose an additional burden on all citizens in the form of taxes sufficient to offset the loss due to reduction in National Forests receipts.

6. During the past few years the Forest Service has adopted a policy which fairly compensates all stockmen for improvements constructed on National Forest lands. The stockmen are relieved to a great extent of a burden which they formerly assumed when the fees were much lower.

7. The average fee charged for National Forest range is about 14.5 cents for cattle

and 4.4 cents for sheep per head per month. This figure as indicated above is much lower than the rental value of private land which averaged 7.58 cents per head per month for sheep and 25.32 cents per head per month for cattle during 1930.

(To be continued in December 7 issue)

EUROPEAN FORESTRY

"Communists, Socialists, Liberals, Ultra-Conservatives - in fact, all political factions - are cooperating with forest owners in Sweden in formulating the most progressive and farsighted forestry legislation in force in any country", according to Axel H. Oxholm, Director of the National Committee on Wood Utilization of the Department of Commerce, who recently returned from a three-months trip to Europe, where he investigated European forests and forest industries.

"As a result of this unity of action, the Swedish forests, which are the backbone of that country, are in a better condition at present than at any time in the country's history. Other countries in Europe are now following the Swedish example in order to safeguard this important national resource. Regulation of timber cutting and timber growing is recognized in Europe today as the most powerful medium of stabilizing European forest industries."

In Great Britain Mr. Oxholm found the country in the midst of the most extensive forest planting scheme in the history of the world. Great Britain, in common with Germany and Sweden, is making important strides in the better knowledge of wood, its conversion and uses. Forest products laboratories are springing up in these countries, with public support, since it is realized that past wood-using practices have not always rested on a scientific basis, and much waste has therefore resulted.

"All these activities", he stated, "are supported by a keen appreciation on the part of the public in regard to the value of the forests and the necessity for their maintenance. Forest fires are under control in Europe, with the result that the damage is slight from this source." Mr. Oxholm made a special study of European lumber marketing practices, and will report his findings to the United States Timber Conservation Board, as a member of its Advisory Committee.

"By the application of certain engineering principles to wood construction in connection with the use of other materials, European engineers and builders are today employing, for construction purposes, certain qualities and species of wood which we in this country consider unsuitable for the purpose." "This may", he said, "open up entirely new fields for our forest owners, and bring about important economies in our construction industries."

From a news release by the National Committee on Wood Utilization.

NATIONAL FOREST ROADS AND TRAILS

By G. H. Lautz, Washington

The 151 National Forests in the United States, Alaska, and Porto Rico have been provided with comprehensive plans of Road and Trail systems through the approval by the Secretary of Agriculture of recommendations made by the various State Highway Commissions and local representatives of the Bureau of Public Roads and Forest Service. These systems include 82.393 miles of roads and 155,597 miles of trails.

The road plan includes two systems, the Forest Highways and the Forest Development Roads. The former system is composed of those roads which are of primary importance to the

States, counties, and local communities and is represented by 16,532 miles of highways. Of these 6,122 miles have been constructed to a standard now considered satisfactory, 9,048 are usable but additional work is required to make them satisfactory, and 1,362 have been proposed for construction. It is estimated that $189,100,900 will be required to bring this entire mileage up to desired standards.

The Forest Development System is represented by roads which are of primary importance for the protection, administration, and utilization of the National Forests and for the use and development of the resources upon which communities within or adjacent to the National Forests are dependent. At present this system includes a mileage of 65,861, of which 22,724 are of satisfactory standard, 16,638 existing but requiring additional work, and 26,499 miles proposed for construction. The completion of this system represents an estimated expenditure of $65,056,600.

The trail system, representing 155,597 miles of trails, is required for the protection, administration, and utilization of the National Forests. This mileage is composed of 112,427 miles of satisfactory construction, 9,047 miles of trails not up to Forest Service standards, and 34,123 miles of proposed construction. The amount required to complete these trails is $5,498,000.

These figures indicate that at the present time 37 per cent of the Forest Highway System, 35 per cent of the Forest Development System and 72 per cent of the trail system are of satisfactory construction. The cost of accomplishing the desired results for all three systems as now contemplated would represent an expenditure estimated at $259,655,500.

The construction completed to June 30, 1931, is represented by 22,518 miles of roads and 61,937 miles of trails, all of which are a part of the systems required by the National Forests. This construction, and the necessary maintenance upon the completed projects required an outlay of $130,169,239, of which $108,723,131 were Federal funds and $21,446,108 cooperative funds.

DIARY OF A REMOUNT DEPOT MULE

6-1-26	Born in a little swale under an alkali butte in the forks of the Missouri and Milk Rivers.
9-25-30	Selected by the Forest Service among 25 others from same herd, and driven 65 miles to Malta.
9-28-30	Left Malta on Great Northern and shipped to Huson, Montana, 450 miles by rail, where I was halter-broken and introduced to a Decker pack saddle.
11-1-30	Trailed to winter range on Flathead Lake.
4-1-31	Rounded up, trailed to Plains, Montana, and shipped to Huson, 75 miles by rail.
4-10-31	Shipped to Dillon, Montana, 195 miles by rail. Packed for bug crew until--
6-20-31	Shipped back to Huson from Dillon, 195 miles by rail.
7-13-31	To Rock Creek on Lolo Forest by truck, 60 miles.
7-17-31	To Remount Depot by truck, 60 miles.
7-20 31	To Yellowstone Park, Gardiner, Montana, by rail, 294 miles; across Park in truck, 60 miles -- saw all the geysers, etc.
8-2-31	Back to Gardiner in truck, 60 miles; by rail to Huson, 294 miles.
8-3-31	By truck, Huson to Missoula, 30 miles; by train, Missoula to Sandpoint, 189 miles.
8-4-31	By truck, Sandpoint to Priest River, 50 miles.
8-13-31	By truck, Priest River to Sandpoint, 50 miles.
8-15-31	By train, Sandpoint to Huson, 175 miles.
8-16-31	By train, Huson to Avery, Idaho, 106 miles.
8-26-31	By truck, Alberton to Upper Ford, 229 miles.
9-9 & 19	By truck, between Troy and Huson, 200 miles.
1931	Total---2837 miles

Worked on the: Madison, Lolo, Kaniksu, St. Joe, Kootenai, and Yellowstone Park

From R. 1 Bulletin

UNIFORMS

By H. N. Wheeler, Washington

Much has been said in years past about a Forest Service uniform and it was very pleasing to note last summer that many forest officers are wearing them. On a half dozen National Parks, the rangers and other officers were noted wearing our uniform and enjoying the privilege of being distinctively and smartly dressed. In some States, State forest officers are using them with keenest pleasure. None of these men seem to be ashamed of them or have fear they will be mistaken for bus drivers or Western Union messengers. When people want information in a National Park or in the State on forest matters and in some places on the National Forests they have no difficulty in reaching a man in uniform. You would hardly expect to approach a man in shabby civilian cloths and ask about some matter of interest concerning a public forest. In the fire camp you go to the man in uniform to get instructions. No one is obliged to point him out. The uniform designates.

While we debate about the uniform and say funny things about it, and adopt a badge of miniature proportions, other organizations go ahead, proud of their positions, in great Government or State organizations, and by their (our) uniform and by dignified demeanor show to all comers that they are the real official representatives of organized authority, ready to serve the needs and demands of the public.

How much longer will we cheapen ourselves, our organization and the great Government we represent by haphazard and nondescript clothing. If we are sometimes mistaken for Western Union messenger boys we might even be proud of that, and be pleased that our uniform makes people have confidence in us.

PAUL BUNYAN

Tom Larkin's the one told me about Paul's school days. He went to school part of a day (after the other kids was let out to make room for him) down (or up) in Maine. His father had a slate made for him from a quarter section of Vermont carboliferous mountain, an' a pencil sent over from Germany an' he begun to learn his three R's. It was one mighty cold day in January.

The teacher started him to writin' 1,2,3,4, but Paul's figgers was so big that all the lines looked straight to the teacher, an' he could only see part of 'em at a time so he got mad at Paul an' Paul picked him up an'throwed him in the stove, then he got skeered an' started for the door, knocked the stove over, let the teacher get out and the teacher took after him with Paul high-tailin' it down the road an' puffin' like a steam engine. Pretty soon he left the teacher about twenty miles behind but kept runnin' an' puffin' till he got to the Gulf of St. Lawrence. He stopped here and quit puffin' so hard, but it was so frosty an' he'd puffed so hard while he was runnin' that his breaths froze an' trailed way out behind him. Those frozen breaths are still hangin' around way down there (or up) in Maine. Sometimes they go out to sea an' folks call 'em fogs. Sometimes they hang around icebergs an' big ships gets lost in 'em. That's what happened to the Titanic.

WOMEN FORESTERS

Wisconsin Kiwanis Clubs have printed a booklet entitled "Women as Wisconsin Foresters." It outlines the work of the State's women in behalf of conservation. It reviews the known facts - the forest decline and the conservation needs in the State. It points especially to the need of education and suggests simple courses in conservation in the public schools.

That Wisconsin's women have interested themselves in forests, wild life, the State's scenery, its lakes, streams and marshes, means something. How much it may mean will depend upon how aggressive the women become.

There has been inertia about conservation. Actual progress has been slow. Actual forest preservation, not to mention restoration, has lagged. However, here and there practical men have set aside small forest tracts and have tried to preserve them. The State has created a conservation commission and it has functioned with some success for a number of years. The Federal Government has come into the State and now has several Forests, under the administration of trained foresters.

So there is some progress. To accelerate that progress requires aggressive public sentiment, based on sound information. Such information ought to be imparted to school children in the schools of the State. Only in a few schools, under a few exceptional teachers, is this being done.

The great bulk of all school children are given no idea of what conservation is all about; have no conception of the problem in its broad general aspects.

The schools seem to resist such instruction. They talk about their crowded curricula and offer other reasons for lack of interest.

If the women of Wisconsin want to do something specific for conservation they best can do it by compelling a change in this attitude in the schools. Women have the best right to insist upon constructive child training. If they believe in sensible conservation they properly can demand that their children learn something about it in the schools.

Editorial in The Milwaukee Journal.

YE EDITOR DISCOVERS

The subject of selective logging received a prominent place on the program of the Pacific Logging Congress held at Spokane, Washington, on October 21-23. Thorton T. Munger and Axel J. Brandstrom of the Pacific Northwest Forest Experiment Station gave detailed accounts of the recent studies made by the Service in the Douglas fir region. Their papers are printed in the proceedings of the congress. It is felt that this meeting did much to arouse interest in this subject throughout the entire lumber industry of that region, and the abandonment of methods of clear cutting looks probable.

Studies made by the Service in the Douglas fir region show that the following methods will serve all reasonable selective logging requirements: (1) caterpillar tractors for direct yarding, where the ground and topography permit; (2) small gas yarders (two to four men crews) for short distance yarding in conjunction with caterpillars for roading on cheaply constructed "cat" roads over distances of one-quarter to two miles; (3) either one or both of the above methods in conjunction with sky line swinging across canyons or uphill.

- - - - - - - -

Tree plantings, more than 8,000,000 of them, have not been registered on the national honor roll of the American Tree Association as part of the program for marking the bicentennial in 1932 of the birth of George Washington. Schools in Virginia and Maryland are putting memorial tree planting plans under way, as are the women's clubs, the D. A. R. and hundreds of civic organizations.

- - - - - - - -

Of the large areas seeded during 1910, the Snoqualmie National Forest has just reported that a few of the black walnut seeds have prospered since that time and the trees are now bearing excellently. Samples of the nuts have been received in the Branch of Forest Management. Flat irons and hammers will be furnished to visitors desiring to test these samples.

Six-year plans or estimates for the Stabilization Board were due in the Washington Office on November 13. All reports from the Regions were in on November 16, which is pretty good considering the short time available and the delay incident to printing and distribution of an adequate supply of forms by the board.

The Stabilization Board was created by an act of Congress passed at the last session. Its purpose is to effectuate a scheme of planning of Governmental construction work so that when a period of abnormal unemployment occurs or impends such construction can be accelerated without the delay and confusion incident to preparation and consideration of plans. Planting ahead in such things is "old stuff" in the Forest Service, but putting plans ahead into a particular form required for some new purpose causes considerable additional work.

A recent Auckland dispatch says: "The New Zealand government has decided to promote the manufacture of deerskin into leather in an effort to reduce the herds of deer, which are so numerous they constitute a menace to crops. The deer were introduced here fifty years ago..."

A CALIFORNIA BURBLE

What! No songs of the Service! So says the Washington Office in the Service Bulletin of November 2 and is proceeding to appoint a committee to select one for us. Perhaps this is true for the dim and rat-infested corridors of the Atlantic Building, or maybe of the leafy isles of the seventh and eighth growth sapling stands of the effete East. But west of the Rockies, - Oh, No! Brother, Oh, No!

The folk songs of Biltmore, Yale, of old Cornell in the days of Fernow, and of our cousins from across the Volstead border are with us yet. They are the paeans attesting to the joy and relaxation of the hard-riding, two fisted band first sent out by "G. P." to explore, create and organize the National Forests of the West. They are many and varied, but they all express the spirit of the American forester.

Who has ever heard and can forget the smooth-toned Lucky tenors and the deep Camel basses issuing from a group of Forest officers in banquet assembled, pouring forth their very souls in the liquid words of "Down Underneath the Hill". Who has not thrilled to the long drawn allegro Allegretti roar and staccato notes of "Alouette". Who has not piously and copiously wept to the ironic dirge of "Here's to the Pinus Dendroctinus" or the sorrowful hymn of "Its Just Humidity". All these--and many more, as dear to the heart as the scenes of our childhood.

Yours is a hard job, Committee. Ponder well and choose wisely. And remember, that while work plans, filing schemes, and many other things besides uniforms can be standardized, you cannot confine, nor yet refine, the forester's songs of good fellowship. - R. 5 Bulleti

A QUARTETTE THAT WAS A QUARTETTE

By Ye Ed.

We shall remember as long as we live the quartette that essayed to entertain assembled Supervisors in Denver some forty or fifty years ago more or less. Paul Kelleter played the pian and the singers were Lyn Douglas, George Duthie, Harry French, and --- we can't remember that other name.

Paul played the introduction. He played it a second time. Looking meaningly at the hesitating quartette, he played it a third time. All four singers should have started to sing at the same time, but only two members of this quartette began. The other two remained silent. The two who were singing, realizing that something was wrong, ceased. The two silent singers, also realizing that something was wrong, began to sing. The audience snickered. The two who were silent suddendly decided to join their singing comrades, but it was then too late, for the other two had ceased singing. This happened several times. The audience snickered audibly. Someone applauded. Others joined in, and they sure gave those embarrassed singers a great big hand. We owe it to this quartette to say that after they had recovered from their mortification and got started all at the same time, the result was right pretty. These singers were really good. They had good voices and could actually read the music held in their trembling hands. We point this technical ability out because we suspect that the writer of the boasting California article was a member of the extemporaneous quartettes he glorifies, and if so, and if our surmise as to his identity is correct, our guess would be that they contained a high percentage of primary defect.

AS YOU LIKE IT

To the Director of the
United States Forest Service,
Washington, D. C.

Dear Sir:

I want to tell you that I think the Department of the Interior* should be very proud of its officers in the Ranger Service. It seems to be the fashion to critise the Government for most everything, but I believe the most critical couldn't find much to say against the men doing the work of Forest Rangers.

This summer my husband and I rode over the trail across Mammoth Mountain to Red's Meadow, in the High Sierras and there we met a Ranger named I think, McLeod. He was a most courteous and kindly officer, and as we rode on up the San Joaquim river we fell to discussing Rangers in general and both remarked that in all our traveling we had never seen a slovenly looking Ranger, nor one that wasn't polite, patient and helpful. Neither had we ever seen a Ranger Station that was anything but scrupulously neat. We particularly admired the little log cabin at Devil's Post Pile, with its cleverly constructed sun dial before the front door.

I believe the public in general feels much the same, for I have heard people numerous times make the same remarks I've made above, and perhaps you will be glad to know it. Also the trails we followed on horseback through that country were most efficiently marked and so, very easy to follow.

Very truly yours,
/s/ Maude Mecham
(Mrs. Arthur H. Mecham)

(*Obviously the public is not yet P. F'd. - Ed.)

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT ××× THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY ×××× TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV No. 49, Washington, D. C. December 7, 1931

THE ATLANTIC BUILDING - AS IS

By E. N. Munns, Washington

Those members of the Forest Service who are unacquainted with the "dear old Atlantic Building" should be warned of some of its peculiarities before they undertake to spend their annual leave in a Christmas pilgrimage to the shrine of the Forest Service in Washington.

As one looks down F Street from about 12th, one sees it rising in its grandeur of soft red brick to a height of 8 stories and a "crow's nest." All is quiet on the western front of this handsome structure save the space occupied by an appealing reminder to the public. Of late there has been pictured in gaudy colors your favorite soap, drink, bull, and now - good Gulf! - its gasoline again! The north side shows some iron grill work, style of 1887, which turns out to be a so-called fire escape.

We approach the building and look casually for the entrance, but no welcoming sign greets the eye. We pass so-called "shops" where the proprietor stands at the door and begs you to enter. Ah! we have missed it for we reach "The Ritz Hotel," a fourth class hostelry, As we retrace our steps our down-cast gaze falls upon some large letters of bright blue tile embedded in the concrete pavement and reading ATLANTIC BUILDING. A dingy entrance is espied, leading to a long alley-way reminiscent of the old-time "Family Entrance."

Through the dust and grime of a quarter century we discover on the glass above the door some lettering which is found to read "U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE." Can this be genuine? We had understood that Forest Service signs should be neat, should have some kind of appeal, carry the badge, and be capable of trapping the unwary into reading, Perhaps those ideals are only for the field!

Timorously we enter the tunnel, hardly daring to breathe lest it lead to a bootlegger's haven. Seventy-five feet ahead stands a great barred gate more or less ajar. Past this, to our relief, a beautiful mahogany staircase comes into view. Yes - this must be the Forest Service, because hiding behind the bend in the stairway is a pile of antique furniture, empty packing boxes, and sacks of waste paper depicting Forest Service activity. Halting a moment to get our bearings, we note an elevator system and its bulletin board. The latter tells us that "Smoking in the elevator is prohibited"; that "the Federal Employees Union is to meet," and other matters of more or less moment. This miscellany reminds us somehow of the Service Bulletin.

We ring for the elevator. While we wait - and wait - we study our surroundings.. A directory hangs on the wall, but so placed it is hard to read. "Lantern slides" and "Library" are listed under "Personnel." We learn that spitting on the floor is prohibited, "to do so may spread disease." Two such signs have been thought necessary, but lest one should take the sign too literally, the drinking fountain is labeled "For Drinking Purposes Only."

Enter a Congressman and some Distinguished Business Men. They, also, ring the elevator bell and read the anti-spitting signs. We all wait. One D.B.M. tries a settee but prefers to stand. Finally an elevator comes into view and sinks slowly and gracefully to the floor level. The door opens and a truck loaded with publications disembarks, but as the group endeavors to enter the operator steps out with a "Take the other elevator," slams the door, and walks off.

Again we wait. The D.B.M. crab about the lack of efficiency in government. Others join us in waiting.

After much button-pushing, a second elevator floats into view. With a "Let 'em out," the floor level is reached, the door clangs open and several people emerge looking as if they had dropped and broken their Christmas spirit.

Nine of us crowd in as the door slams shut. The operator gives a big wheel a few turns and we look hopefully upward. But the elevator sinks a few inches. The operator opens the door and says "Not enough pressure today. One passenger out." The one nearest the door steps out, the door shuts, the operator winds his wheel, and we sink some more. When four men have thus gone overboard we manage to take off, just as the clock strikes 2. Waving good-bye to the castaways, up we go. The operator sits down in a corner, the rest of us stand.

Our ascent is not without its charms. One of these is the elevator itself, for it is decorated in tinsel and Christmas bells, all somewhat aged but still showing a belief in Santa Claus. A collection box invites attention. The operator's call-box, sans face, emits constantly a horrific buzzing without indicating what floor the would-be passenger is on or in which direction he wishes to go. The Congressman explains why the elevator doesn't have double doors to protect the public -- it is because Federal buildings are outside the law.

Rising at a gentle rate, we have a wonderful opportunity to observe the floors as we pass. We see the hallway on the second floor with the messenger's clubroom and a clock that says 2:15. Have we been 15 minutes in flight? We had hoped it was a little less. But the third floor clock reads 2:10. One D.B.M. calls attention to the wicker lounge here as a characteristic Forest Service extravagance. We explain that the original cost depreciated over the years would make the annual charge less than 85 cents. He finally allows that this is more than the couch is worth. The elevator man joins the argument.

Engrossed with this conversation, we all but miss a glimpse of the fourth floor, where the clock says 1:50. On the fifth floor the Congressman gets a kick from observing that rows upon rows of pill bottles make the place look more like a drug store than a drug store does. On the sixth floor he observes that the ambulance stretcher really belongs with the pill boxes on the fifth. On the seventh floor, where the Congressman and the D.B.M. leave us, we note that it is just 2:05. We bid good-bye to our traveling companions and leave them gazing with rapture at the illuminated landscapes and swinging doors. We reach the eighth floor, the end of the line. To work out the total elapsed time proves impossible; the clock has stopped and our watch has run down since we took off.

Again we see that baneful sign "Do not Spit on the Floor, to do so may Spread Disease." We struggle with an impulse to try it and see what disease will appear. In a large room where numerous people are busy putting roads and trails on the map, we find nobody who knows the why of the sign; it has always been there. We look into other rooms and talk with the timber experts and the cowboys (and girls). They appear well equipped with shining brass cuspidors from the 5 and 10, but none know the why of the sign.

In the "Crow's Nest" we find an individual who opines that the sign is a hang-over of Land Office days.

Descending to the seventh floor we examine with interest a megaphone hanging beside a framed ax and saw. Has some lumberjack succeeded in removing Rudy's mouthpiece? - No, we are told, this is for use in case of fire. In the corner stands a pikestaff reminiscent of the 12th century. We look in vain for the tin helmet.

This being the floor whence emanates all the best in fire control, we remember the two signs at the head of the stairs on the eighth floor both vaguely pointing the way to the fire escape. (As the signs are side by side it is fortunate that they both point in the same general direction). But in this home of high-power fire control we find one fire escape sign half hidden behind a file case and one with a hand pointing not toward the escape but away from it. The fire hose, like the one previously noticed on the ground floor, appears as though folded up ages ago. If ever an attempt is made to lead water through it, disaster is certain. Strange that these lynx-eyed inspectors cannot cast the beam out of their own eyes!

Wandering towards the Forester's office, we find a curious galaxy of art and pseudo-science. In the hall is an oil painting, the interest of which centers in a small boy running from a burning barn with a mule! Just what connection this picture has with forest fire control no one can explain. Perhaps it illustrates a mistake in get-away time!

In the Forester's anteroom are photographs of noted personages of the past, and specimens of wood products, -- likewise of the past. There are some socks, childrens' size and not mates. The label informs us that "$3,440,154 worth of artificial silk was made in 1914." There is a more or less realistic "hot dog," the dilapidated "covering" of which is alleged to be "made of wood." Aged samples of matting, paper, and cellophane, the latter wholly unlike the modern product, show recent progress (?) in the use of wood. One bottle is here, the label of which says that alcohol can be made of wood! From its appearance the bottle has been empty since about 1919.

Intrigued by the many swinging doors, we cautiously push one open -- but hastily retreat when we almost step into an open trunk and discover the lingerie of some field-going Forester spread around the room in wild disorder.

We descend to the sixth floor, where the hallways are filled with various types of impedimenta belonging no doubt to those who are researching the musty corners for the long-lost truth. Herbarium cases line the walls, displaying specimens so mellow that they can scarcely be distinguished from the labels. These exhibits are of such important forest trees as tree huckleberry, downy linden, and prickly ash. It would have been unreasonable to expect these labels to conform to Check List names! Anyhow, most of the cases are half covered with files so their contents can't be seen. Truth must be elusive, for desks are piled high with papers, books, manuscripts, and other debris. One wonders what purpose the files serve.

We drop down a flight of stairs, noting another ax, rusty saw, pikepole, and megaphone in the corner. It turns out that the pill boxes seen from the elevator contain seed of different trees. We are gratified to see such interest in seed, until we discover that the exhibit is merely an advertisement of a German seed house. The walls of this floor are gaily decorated with exhibits, contrasting strongly with the Forester's anteroom which looks like a second-hand store.

We endeavor to take a drink from the fountain, "For Drinking Purposes Only," and a deluge of cold water spouts madly into our face. More cautious the next time, we keep our head out of the way and thus succeed in catching squarely the slowly rising elevator. The operator, on receiving this unexpected bath, turns his steering wheel three times and disappears in a rush of air.

On the fourth floor we hear the clang and rattle of many engines and with minds full of wonder we investigate these mysterious sounds. The floor trembling beneath us, we cautiously open a door to find several people feeding cards into big machines. These turn out to be new-fangled calculating machines merely adding to the depression. Fascinated, we watch the cards flit here and there. Suddenly a great quantity of smoke drifts in from the neighboring chimney. "Is nothing done for this?" we ask, as we strangle in the sulphurous smoke. "No" comes back a faint whisper. "We complain often but nothing happens. The inspectors only tell us that Washington is a smokeless city."

As we stagger down the corridor, our eyes smarting, we note another antique collection of ax, saw, pikepole and megaphone, thickly overlaid with dust. Even the furniture has its accumulation. We learn, however, that it is dusted every day and upon looking closer we see, sure enough, the path of the wavering brush. Another "no spitting" sign. We wonder whether the White House, Capitol, or new Agriculture Building is so decorated.

Cautiously we feel our way through the dim afternoon light to the third floor. We thought surely this region of darkness is not inhabited! But yes, a human being suddenly pops out of a gloomy cavern more resembling a rabbit warren than an office. We are informed that the eastern Regional Forester still sponges space off the Washington office causing some of the Forester's office to be quartered in a so-called "Annex." No reason is given for this state of affairs. After our eyes become accustomed to the darkness we discover that the regional staff seem content with their miserable and inexplicable lot.

Cautiously descending another flight we find ourselves confronted by more darkness, "no spitting" signs, telephone booths, files, old furniture. Here, also, people are darting to and fro in the semi-darkness, apparently guided by a sixth sense. One passageway in particular interests us because it is lined with bookcases to the ceiling-- we have, in fact, reached the library. Spying an intriguing title we take a book from the shelves. Immediately the act is regretted, as a cloud of dust surrounds us. We attempt to replace the book. Another mistake, for hands and face take on the appearance of a coal miner's. With difficulty we make our escape as the librarian endeavors to charge us with the book.

One more flight down and we are where we started. As we take our last look at the place, a besooted individual emerges from an underground passageway wreathed in a cloud of smoke. Without another backward look we beat it through the tunnel and onto the street. Now we sure can tell the boys back home what a fine place the Washington office really is!

WHAT'S IN A NAME?

By Oscar Evans, R. 5

If you travel up and down the Sierra and Coast Range, or wander within the National Forests of California, you are struck by the frequency with which certain place-names bob up. Time and again you come upon a Mill Creek, a Bear Creek, a Willow Creek, or a Cottonwood Creek. You notice also that the creeks often bear good old Anglo Saxon surnames or names of objects that the early pioneer just happened to spy. If John Jones pitched his camp on a stream it was forthwith called Jones Creek. If he later saw a dead cow on a stream you may be sure it was called Dead Cow Creek - no imagination there. In contrast, the good Padres who named many of the topographic features in southern California, gave them the names of some cherished saint or often of some human quality, such as Merced - River of Mercy, Modesto - modest. The Padre, more often than not, named things after what he thought; the trapper, prospector, and stockman - after things that he saw. The Spanish penetration from Mexico into California began about the time of our Declaration of Independence and was primarily along the coast and into the larger valleys. It never spread far beyond the line of missions extending from San Diego northerly to the San Francisco Bay region. The Anglo Saxon came overland. Only an occasional American scout or trapper climbed the weary trail over the Sierra summit previous to the first immigrant train in 1841. Between this mere trickle and the flood of goldseekers that came in '49, a simple and elemental naming impulse prevailed in the mountains of California. A review of the names applied to creeks alone tells the story.

Proper names, of course, outnumber all others, with 270. These are almost always names like Parker, Walker, Jackson, - names with roots sunk deep in the British Isles. Distinctly English names come with rapid regularity, 240 of them. There are 12 Scotch and 5 Irish; the rest include German, Scandinavian, Dutch, Spanish, French, and Hawaiian. Eight Presidents have their names applied to creeks.

The most common creek name is Mill, which occurs even unto 29 times. The presence of a mill apparently was a striking fact in those early days. Next comes the Bear Creeks, 27 of them, with 10 Grizzlys in addition, - not to forget several Oso - the Spanish for bear. Evidently the old timers sat up and took notice when a bear was around. Willow claims third place - with 19, and there are 17 Cottonwood Creeks. They could hardly help seeing those two stream-loving species for they meant water and water meant camp. The next six things that impressed themselves on the minds of the pioneers were Rock, 16 times - plenty of granite in the Sierra; Deer 15 - their main source of food; Rattlesnake 11 - one of their fears; Cold 11; Indian 11; and Boulder 10. They had drunk the cold Sierra water that came splashing down over the granite boulders and had hunted for deer, keeping their eyes open the while for rattlesnakes and Indians.

Trees, shrubs, animals, birds, reptiles, insects, colors, household articles, tools, the Indian language, and the earth's surface all contribute to the making of California maps and the naming of her beautiful mountain streams. Thirty species of trees are represented, including Cottonwood and Willow. Some of the others are Cedar, which appears 10 times; Alder, Ash, and Buckeye 5 times each; Pine 4; Maple, Sycamore and Laurel, each 3 times. The early residents didn't meet up with so many shrubs and plants when baptizing California streams - only 12 species in all - Strawberry 4 times, Huckleberry 4, Onion 3, and Blackberry, Thimble-berry, Grape-vine, Peavine, Parsnip, Clover, etc. The berries were the most popular - the old timer was looking for food. Four times he did not take the trouble to pick out a species, but just thought "Brush." Twenty kinds of animals are represented. The more common after Bear and Deer are Horse used 7 times, Cow 6, and Mule, Panther, Coon, and Antelope 4 each, and Dog, Wolf, Sheep, Bull Run 3 each. Inhabitants of the water lend their names as follows: Trout 7, Salmon 4, and just "Fish" 5. There are five representatives of the insect family, namely, the lowly louse, the droning bumblebee, the fiery yellow-jacket, the pestiferous mosquito and the industrious ant. Of the ten species of birds that play a part in the National Forest creek nomenclature, Grouse is the most common, with a score of 6 - food again. Eagle Creek occurs 4 times and one also finds Partridge, Wren, Sagehen, Goose, Crow, and Owl Creeks. The antagonistic rattlesnake leads all the reptiles, but there are also Scorpion, Crab, Tadpole, and Snake Creeks. Of the metals chosen, Silver leads with 5, followed by Galena, Iron, Copper, and Gold. Colors were in his mind when the early resident christened Green, Yellow, Blue, Gray, Brown, and Chocolate Creeks, with 4 Blues leading.

The traveler in the mountains will encounter creeks named for European countries or nationalities - Ireland, Wales, Spanish, French, Italian, Portuguese, Dutch, Frenchman, Scotchman, and Dutchman Creeks, also 3 Asiatic countries, China, Russia, and Siberia, and for good measure, we have American and Canadian Creeks. On 93 occasions the earth's physical factors - rock, soil, and water, played a vital part in the naming of California's splendid streams. In addition to Rock, Cold, and Boulder, there are also 5 repetitions of Mud, Fall, Big, and Swamp, 4 of Sand, and 3 of Slate, and also Slide, Meadow, Stony, and Bluff, and many others as casual.

In 23 instances the old timer did not look very far for a name and displayed his limited vocabulary by christening our sparkling, foaming Sierra streams with such common-place names as Shovel, Trap, Frying Pan, and Pick. Shades of the Padre! He would at least have named it the "Creek of the Stout Pick." Sometimes odd or trite names crept in, such as One-Eye, Tish-tang-a-tang, Whiskey, Moonshine, Pigtail, Texas-chow, Shoofly, and Fiddle. Indian names occur less frequently than one would expect. We find Mowitz - deer, Eltapom - high valley, and others. Strange to say, only occasionally are creeks named to commemorate some historical incident. Lost Cannon Creek is a reminder that Fremont was forced to leave his cannon behind during one of his pathfinding expeditions.

What's in a name? Everything! The whole life of the California pioneer is revealed - his previous history, his daily life, his primitive surroundings, his haunting fears. What's in a name? Say "Clear Creek" to some denizen of the pavement and four walls, and immediately his mind is filled with the romance of a Sierra camp - a purring stream, shimmering lakes, sparkling air, the pungent fragrance of fir and pine, shady trails, light sifting down through a leafy canopy, and quiet carefree days. Under this stimulus a new spirit is born - that's something.

THE GRAZING FEE QUESTION

By C. E. Rachford, Washington

(Continued from November 30 issue)

The decision of the Secretary of Agriculture did not settle the matter, and through the activities of officers of the National Woolgrowers Association a pretty well organized attempt to secure a reduction of the fees came from different State wool growers'associations through Congressmen and Senators to the Secretary of Agriculture, who after consideration of all the facts again reaffirmed his decision. Upon further agitation of the question by sheep growers, the Secretary sent a telegram to the Governors, Senators, and Representatives in the different States interested, explaining the position of the Department and requesting recommendations.

An analysis of the replies to the Secretary's telegram indicated a lack of unanimity of views. It was evident, however, that a majority of the replies favored the Department's position. For this reason and due to the fact that over 60 per cent of the permittees had already paid the fees for the year 1931 and no refund could be legally made, the Secretary of Agriculture for the fourth time disapproved the request of the woolgrowers. Since that time editorials evidently inspired by the woolgrowers or their representatives have severely criticized the Department and the Forest Service on the position taken. Among these was an article in the October issue of "The National Wool Grower," which after quoting the decision proceeded to accuse the Forester and the Secretary of insincerity, citing as an illustration the claim that refunds to those who had paid their fees could not legally be made was wholly inconsistent with the statement that "refunds could be granted where the range failed to supply feed for livestock for the period stated in the permit."

The article in question failed to give adequate consideration to legal and practical phases of the problem. Money collected for the sale of any Forest product cannot be refunded if the product is actually obtained under the terms of the permit or contract. In the case of stock which remained on the Forest for the season specified in the permit, the fee having been paid into the Treasury and the permittee having secured the full value contemplated, there is no legal ground for refund as will be noted in the following provision quoted from the Act of Mar. 4, 1911 (36 Stat. 1253).

"Provided further, That so much of an Act entitled 'An Act making appropriations for the Department of Agriculture for the fiscal year ending June thirtieth, nineteen hundred and eight,' approved March fourth, nineteen hundred and seven (Thirty-fourth Statutes at Large, pages twelve hundred and fifty-six and twelve hundred and seventy), which provides for refunds by the Secretary of Agriculture to depositors of moneys to secure the purchase price of timber or the use of lands or resources of the national forests such sums as may be found to be in excess of the amounts found actually due the United States, be, and is hereby, amended hereafter to appropriate and to include so much as may be necessary to refund or pay over to the rightful claimants such sums as may be found by the Secretary of Agriculture to have been erroneously collected for the use of any lands, or for timber or other resources sold from lands located within, but not a part of, the national forests, or for alleged illegal acts done upon such lands, which acts are subsequently found to have been proper and legal; and the Secretary of Agriculture shall make annual report to Congress of the amounts refunded hereunder;"

In the case of failure of the range to supply feed for the stock for all or a part of the season specified, a refund may be granted for such excess payments as have been made. Authority is granted in the following provision of the Act of Mar. 4, 1907, (34 Stat. 1270).

"Provided further, That all money received after July first, nineteen hundred and seven, by or on account of the forest service for timber, or from any other source of forest reservation revenue, shall be covered into the Treasury of the United States as a miscellaneous receipt and there is hereby appropriated and made available as the Secretary of Agriculture may direct out of any funds in the Treasury not otherwise appropriated, so much as may be necessary to make refunds to depositors of money heretofore or hereafter deposited by them to secure the purchase price on the sale of any products or for the use of any land or resources of the national forests in excess of amounts found actually due from them to the United States:"

As a further argument for a reduction in grazing fees on the National Forests, "The National Wool Grower" cites five different cases in Oregon where private land rates have been reduced from forty to fifty per cent. The total acreage involved here is 7,440.

When one considers that the sheepmen in Oregon lease each year probably three million or more acres it is doubtful if a few exceptional cases can be accepted as a true index to trends. But assuming that trends are so indicated, does this reduce private land rates below the price charged for National Forest range? An analysis of over 200,000 acres of comparable privately owned land for the year 1930 would indicate otherwise. The average price paid for this land for that year was 17.4 cents per head per month for sheep range. Even if a reduction of 50 per cent were made in these rates, National Forest fees which average 4.6 cents would still be 50 per cent lower than private land fees.

The whole situation may be summarized as follows: The requests for the remission or reduction of the grazing fee are not based upon a failure of the consideration. Generally the ranges will support the number of stock for the period indicated in the permit. Where this is not the case, local Forest officers are instructed to recommend the necessary refund. Nor is the request based upon the claim that the commodity is overpriced, since other stockmen would gladly pay higher fees for similar privileges. The argument in favor of a remission or reduction of the fees is based solely upon the claim that the stockmen are in financial distress and need the money to use in their business. The truth of this claim is conceded. However, the same thing holds true at this time with the lumber industry and practically every other industry in this country. Therefore, to grant the request of our grazing permittees on the grounds advanced by them would be to commit the Government to a policy which would be equally applicable to every individual from whom the Government requires a money payment, whether in compensation for a commodity or a service or in satisfaction of a penalty or a tax. The consistent application of this policy would leave the public treasury without funds. To apply this policy only to those who have already been granted preferences in the use of National Forest range would be difficult to defend or explain.

YE EDITOR DISCOVERS

Starting the first of the year, radio fans will have an opportunity to follow the work and adventures of one of Uncle Sam's Forest Rangers as portrayed in a weekly dramatization of Forest Service work. The program will go on the air probably each Monday during the National Farm and Home Hour over a network of some thirty stations. The weekly drama, written by C. E. Randall of the Branch of Public Relations, will be presented from the Chicago studio of the National Broadcasting Company with professional N. B. C. talent. As tentatively planned, it will be a continuing story built around the activities of an old-time National Forest Ranger and a youthful Assistant Ranger.

Recently George A. Duthie and C. E. Randall conferred with officials of the National Broadcasting Company regarding plans for the program, at which time it was indicated that Harvey Hayes, popular radio actor who made a hit as the old-timer in the Empire Builders program, would be assigned the part of the veteran Forest Ranger.

- - - - - - -

Definite recommendations for the stabilization of economic conditions in the country's forest industries through cooperative public and private action were included in three important sub-committee reports presented to members of the Advisory Committee of the United States Timber Conservation Board in meetings at Washington on November 16 and 17. These reports will be taken under advisement by members of the Board at a later meeting.

Henry S. Graves, Dean of the School of Forestry, Yale University, as chairman of the sub-committee on publicly owned timber, discussed policies concerning the administration of commercial timber under Government control. He cited proposed changes in methods of administering revenues from National Forests, and also upon policies governing the acquisition of timber, its cutting and sale, which were made a part of his sub-committee's report to the board.

David T. Mason, Manager of the Western Pine Association, Portland, Oregon, chairman of the sustained forest yield sub-committee, outlined suggested means of assuring perpetuation of the nation's forest resources. The economic possibilities of growing trees on a crop basis were cited in the sustained yield report.

A discussion of Federal and State tax laws and policies as they affect the growing of timber on a commercial basis was presented by Dr. Fred Rogers Fairchild, of the Forest Service Forest Taxation Inquiry and also chairman of the Timber Conservation Board's advisory group sub-committee on taxation.

- - - - - - -

Regional Forester Rutledge, accompanied by the architects who have completed a first plan for the new Ogden Forest Service Building, arrived in Washington on November 24. If approval of the Treasury Department can be secured to the plans as drawn, the way should be cleared for prompt action on this building.

- - - - - - -

Contracts are being let from time to time for the paving, sewerage, spur tracks, and other preliminary work for the new supply depot at Government Island. Plans for the buildings to be erected are not yet completed.

- - - - - - -

Joseph Kittredge, jr., of the Lake States Forest Experiment Station, has accepted a position as Professor of Forest Influences at the University of California. This is the first position of this kind to be established at a forest school in the United States and shows the importance that California attaches to the part forestry plays in the social and economic life of a community. Kittredge, who obtained his doctorate from the University of Minnesota last July, will leave the Forest Service this winter to take up his new duties at Berkeley.

- - - - - - -

S. B. Locke, Assistant Biologist of the Biological Survey assigned to the Intermountain Forest and Range Experiment Station, has accepted the position of Conservation Director of the Izaak Walton League of America, succeeding Seth Gordon. Mr. Locke was formerly a member of the Forest Service.

LAND UTILIZATION CONFERENCE

Approximately 375 persons, representing all sections of the country, were registered at the National Conference on Land Utilization which was held in Chicago November 19 - 21.

The Conference was called by the Secretary of Agriculture and the executive committee of the Association of Land Grant Colleges and Universities for the purpose of discussing the problem and formulating recommendations for federal and state action. Secretary Hyde delivered an address at the opening session and presided at the concluding session. Among the topics discussed were utilization of western range land, methods of taking submarginal land out of agriculture and preventing further expansion of agriculture on poor land, forest policy, land acquisition by the public, taxation in relation to agriculture and forestry, soil erosion, adjustment of farming organization and methods in the better areas, and agricultural credits. Among other things the Conference recommended that the western grazing lands be organized into public ranges and administered in close coordination with the National Forests; that lands valuable for the protection of watersheds be administered under the supervision of the Federal Government; that only the land that is clearly supermarginal for agriculture be eliminated under the homestead laws and that the remainder be withdrawn from entry and added to the public reserves; that reclamation efforts be confined to projects already started; that Federal and State agencies develop coordinated programs for the use of submarginal land by removing the economic obstacles to private ownership and providing for public acquisition of land that private owners will not hold and manage in accordance with the public interest; and that the Federal Government assist the States in carrying out land economic surveys and classification.

For the purpose of developing a national program the creation of a National Land Use Planning Commission of 15 members was recommended, to consist of representatives of the Department of Agriculture, Department of the Interior, Federal Farm Board, Federal Farm Loan Board, and the Land Grant Colleges. It is proposed that this Commission be assisted in formulating plans and furthering their adoption by a National Advisory and Legislative Committee on Land Use to be made up of representatives of the farm organizations, agricultural editors' association, United States Chamber of Commerce, American Bankers Association, State Commissioners of Agriculture, American Forestry Association, livestock associations, and railroads.

- W. N. Sparhawk

AN OVERLOOKED RANGE STORY

On a recent visit to my office Dr. Earley Vernon Wilcox, well known as a writer on agricultural subjects and perhaps most familiar to members of the Forest Service as joint-author of Chestnut & Wilcox's elaborate report "The Stock-Poisoning Plants of Montana" (published in 1901), presented me with a copy of his bulletin, "The Grazing Industry" (Hawaii Agr. Expt. Sta. 91 p. 1911). It seems desirable to apprise foresters and others interested in the history of the Western range and its problems of the existence of this valuable publication, which, although it pertains to the range country of the western United States, appears to have been overlooked because of its having been published in Hawaii. The sole references to Dr. Wilcox's bulletin which this writer has thus far noticed are in Professor Wooton's "The Relation of Land Tenure to the Use of the Arid Grazing Lands of the Southwestern States" (U. S. Dept. Agr. Bul. 1001. 1922) and in Dr. Sampson's "Livestock Husbandry on Range and Pasture" (1928). Both those works, however, merely mention the bulletin in one of their bibliographies and do not quote it.

"The Grazing Industry," by Dr. Wilcox, gives the history of the public domain with general description of the lands and notes on their extent, topography, climate, soil, vegetation, economic uses, forage plants, wild life, rodents, and insect pests, and also on such subjects as fires, effects of overgrazing, and methods of range management and improvement. The bulletin shows a wide range of reading, and one of its most valuable features is its excellent resume of the published literature available at the time of its writing. Some of the points raised in the bulletin are of especial interest,- particularly in view of their having been written over two decades ago; for example, the author's definition of and notes on overgrazing, his comparisons of various classes of range livestock and their effects on range, his comments on erosion, and recommendation of open herding of range sheep. Many of the older historical notes are equally intriguing; for example, the author's statement that Alexander Hamilton, "who proposed the first plan for the disposition of public lands," suggested that the wishes of capitalists should be given priority over those of actual settlers on account of threatened deficits in the Federal treasury, and the statement that, in his letter of instructions to Gallatin and Rush (the American representatives on the Oregon Boundary Commission) the President of the United States (John Quincy Adams) declared that in that region "there is no object to any party worth contending for." It seems likely that Region 6 will erect no memorial obelisk to the sixth President, as Region 1 has recently done in memory of the twenty-sixth! But then, as their own biographer (and one of them) frankly admits, the Adamses always were "a cantankerous lot!" - Daytonius

THE BLACK CANYON DEER HUNT

An unofficial compilation of the checking station records show that 2,335 deer were checked out of the Black Canyon "two-deer" area on the Gila National Forest during the 1931 hunting season.

Of the total deer killed 1,684 were does (a few spike bucks were checked as does), 601 bucks and 50 fawns. The official bag did not include fawns and those brought to the State Game Department's checking stations were taken from the hunters and given to charity. The two-deer area in Black Canyon comprises about 100 sections; therefore one deer was checked out to each 27½ acres.

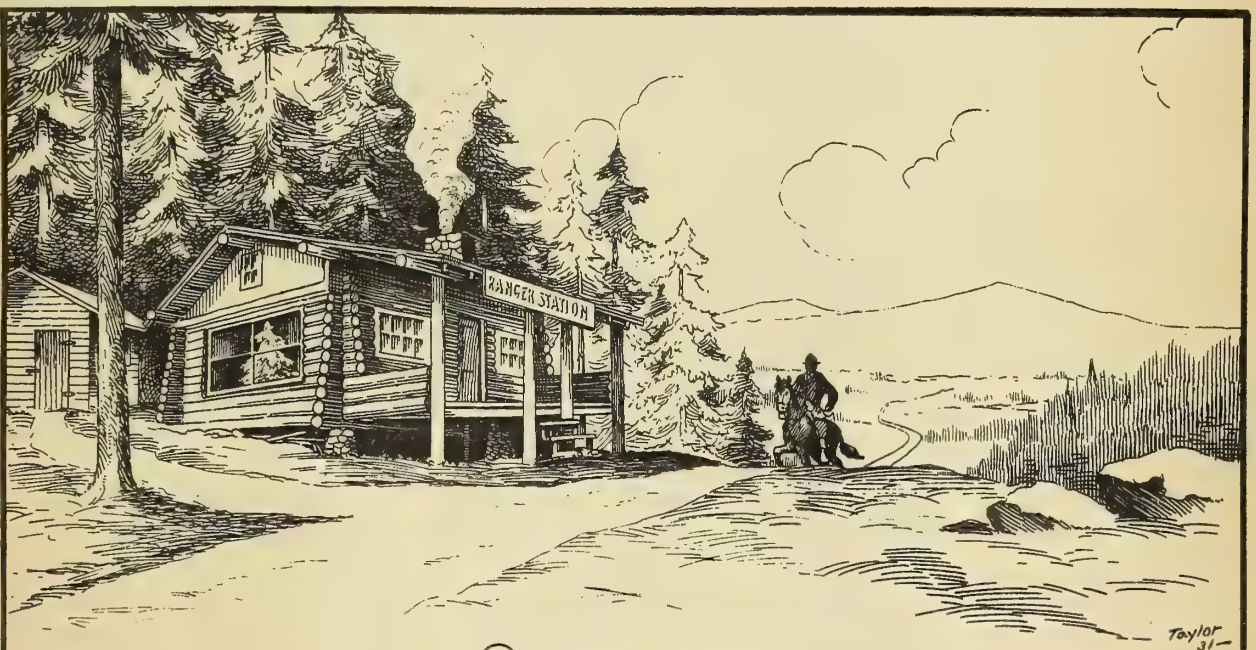
Approximately 2,440 persons hunted in the area and while many hunters obtained two deer, several others got none. Only one fatal accident occurred, which is remarkable considering the concentration of hunters, and that one happened in camp under circumstances not chargeable to field conditions. - From R. 3 news release

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES. IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT. xxx THE TIME HAS COME FOR A CHANGE. AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, Nos. 50-51 Washington, D. C. December 14-21, 1931.



GREETINGS

MAY THE SPIRIT OF CHRISTMAS SO PERVADE FOREST SERVICE HOMES THAT IT WILL BE REFLECTED INTO THE HOMES OF OTHERS, WHO MAY NEED THE INSPIRATION, FAITH AND JOY IT WILL GIVE!

A MERRY CHRISTMAS AND HAPPY NEW YEAR TO ALL!

R.Y. Stuart.

CHRISTMAS GREETINGS, AND AN ALIBI

By E. A. Sherman

As a seasonal greeting to the readers of the Bulletin in general and to members of the Forest Service in particular, I know of nothing more appropriate than the simple words of Dickens' immortal "Tiny Tim": "God bless us, one and all."

Note to the Editor:

Early in the fall, when Christmas Day was still so far away that its ultimate arrival almost seemed problematical rather than certain, you asked me to write an article for the Christmas number. "Sure," I replied, "when do you want it?" You answered, "Well, I'd like to have it not later than November twenty-fifth."

In perspective, the job that far distant in time looked like pretty small potatoes, so I solemnly promised to have the manuscript ready on the appointed date -- promised promptly, freely, and emphatically -- then proceeded to forget all about it; and today is November twenty-seventh. My promissory note has fallen due. This sight draft on my intellectual account is presented for redemption, and literary funds available for such purpose are not available.

Why did I make such a promise? What reason had I to suppose that I was capable of writing something on the Christmas season, suitable, appropriate, and worthy of printing? An epoch which for nineteen hundred years has been embellished and adorned by the best efforts of the most gifted minds of every age -- why should I sit down and belabor a mediocre brain for a mediocre product when I might go to you and say: "I find Dickens has already done much better than I could. Here are a few pages from his Christmas Carols; print them."

Thinking over this plan as a way out, I feared you would come back at me and say: "Dickens, unfortunately, didn't have the Forest Service viewpoint." To this objection I felt I could successfully counter by saying: "Dickens voiced the viewpoint of humanity, and that embraces the Forest Service as well as everyone else."

Being naturally industrious and unusually conscientious, I nevertheless searched my brain for what newspapermen term a "lead," that would give me an excuse for a Christmas article having some special Forest Service slant, but found nothing satisfactory.

Of course, the Christmas tree and our nurseries furnish a direct tie; but the Christmas tree as a subject has probably been tortured by more pens than have afflicted any other particular phase of the Christmas festival. I then thought I might claim that this festival has special significance for the Forest Service because its first great message to man was that of peace and "good will to men." Our work has always been prompted by "good will to men." For years the very interests that the Forest Service came to save, such as the livestock industry and the lumber industry, fought us with bitterness born of misunderstanding. Still, to make this the subject of an article and elaborate upon it as deserving special notice at the time of the great Christmas festival seemed presumptuous.

Again, one might paint a picture of cowboys shooting up western towns; of the lumbermen coming in from logging camps or the river men from the drive, terrorizing the first shanty town encountered, and leaving its bar a wreck in their wake. In contrast to this we have yet to learn of any but an apocryphal case of a cow town being shot up by a bunch of Forest Rangers, or a settlement in the lumber woods being wrecked by the meek and lowly members of a Forest Service planting crew. However, I rejected this topic, for after all there is no great merit in the members of an organization being good citizens.

For one brief moment there flashed through my mind the possibility of drawing an analogy between the work the Forest Service is doing in saving our Forests from devouring flames on earth, and the salvaging of man's incorporeal being from the celestial flames of the spiritual world. But this was rejected for lack of comparable data, bearing particularly upon the less materialistic side of the subject.

So, after viewing the problem from all angles, I must conclude that after all Dickens had done it best. Hence the brevity of my contribution.

"ALL IN THE FAMILY"

By Assistant Forester Herbert A. Smith

Two Forest Service graduates, both busily and happily employed in work unrelated to forestry, chanced to fall in with one another. The evening passed in reminiscences of the old days, the interchange of information about former associates in the Service and discussion of this and that having to do with Service affairs. When the time came to separate one said to the other: "What is it about the Forest Service that seems to allow us to talk about nothing else? Neither of us has been telling about what now occupies us. It's always so when I meet up with anyone of the old crowd."

Railroad people say: "Once a railroad man, always a railroad man." It gets into the blood. Of the Army and the Navy you can say still more. The wife of an army officer becomes an "army woman" and their children are "army children" - members of a social group set apart and made cohesive by common interests, traditions, and way of life.

The Forest Service gets into our blood, first of all because it calls forth loyalty to a fine cause - for the best that we can give to an exceedingly worth-while job. Out of that has grown the sense of a common interest which makes us think of ourselves and each other as all members of the Forest Service family. We have our own traditions, and are proud of them. Uncle Harry Tower, lover of children and of the Forest Service, gave us one, perpetuated in the Forest Service Christmas tree and celebration. With warm hearts we of the Washington office send forth our greeting to all the homes and all the individuals that the great family circle is thrown around and draws together, saying to you, wherever you may be -

"MERRY CHRISTMAS"

WHEN CHRISTMAS COMES TO R-6

By Regional Forester, C. J. Buck

I believe that in no other organization do the hearts of individual members glow as warmly at Christmas time as in the Forest Service. This is due largely to the very circumstances under which we work. Forest officers are, most of the year, exposed to the natural elements of weather; our big jobs involve acting upon Nature and Nature's forces in the raw. Not only in fire control but also in conservation and use of forage plants, use and reproduction of the tree crop, do we contend with natural forces. Our work is out of doors, extends over tremendous areas, and the contrast of a return to home life is nowhere more welcome and appreciated.

If Region 7 and some other regions are in the middle of their fire season at this time of the year, we are sorry for them but also glad that Christmas time is home-time with us in the Pacific Northwest. The beginning of the winter storms in the late fall in Region 6 marks the beginning of a more continuous home life and develops that welcome, comfortable, and snug feeling of domesticity.

Forest officers are also more appreciated at home than are other classes of men, largely because of their long absences during the spring and summer months. Who has ever heard of a divorce among Forest officers? A few to be sure, but on the whole it is uncommon. Neither the husband nor the wife can become bored and excessively irritated over the way his or her helpmate screws the cap on the toothpaste; even the foul-smelling pipe becomes sweetest incense not to be forbidden in the best room in the house, after an absence of many months!

Shelter from the rain and snow at Christmas time has many meanings to us Forest officers. The snow and rain are a beneficent force of Nature making us believe that the fire season will be less severe next year, making the grass grow longer, producing water for irrigation. It is mighty pleasant for those Forest officers who can look out from their shelter upon the gently falling rain and the soft snowflakes.

In Region 6 the winter months should mean deep snow--34 feet at the Mount Baker Lodge on the Mount Baker Forest--and several feet at least on the parched Forests of eastern Oregon and Washington.

In the Regional office we always get together around a Christmas tree. Various Forest officers from the field join with us in entertainment and in making gladsome the hearts of our "human reproduction."

All in all, it is a joyous time. The constructive forces of Nature over vast mountainous areas have been directed to human benefit and the destructive force--Fire--has been met and conquered once again. We have thanks for the past and confidence for the future, and, for those of us who are at this time sheltered from the storm, what more could be desired? And so at Christmas time in the Pacific Northwest we are happy and send our best Holiday wishes to all other Forest officers in the great Service family.

EUTOPIA

By Regional Forester, R. H. Rutledge

When Gabriel sounds his saxaphone fifty years hence and says to the present generation of foresters, "Well done, thou good and faithful servant," what state of affairs will we have brought about? Here comes 1981:

Of course the fire scares us not at all if we are close enough to hear that horn.

Pyrotechny is so thoroughly analyzed that anticombustion is as common as antifreeze. Lightning is trained to always strike in the same place, i.e., the Aleutian Islands. Pocket radio sets have to be toned down by automatic volume control and mufflers. The double-decked motor ways are paved. All Rangers have official cars and all Fords are Lincolns. Stock driveways are forgotten. Cattle and sheep trail by the air route. Natural reseeding is too slow, so denuded areas are planted with forage plants from the nursery. All State, private and Federal range is under management. Population of human beings, as well as livestock, is so regulated that all grazing applications are approved in full. Violations of permits or digressions from allotment plans are reported immediately by the owner to an arbitration board consisting of two Forest officers and a stockman, the latter to be a sheepman in cattle cases and vice versa.

The use of forests for synthetic lumber, rayon, chemicals, fuel, food, etc., is so prevalent that Forest Management requires clear cutting and the operator demands every twig and needle. A normal yield on every acre cut eliminates the need for estimating or scaling. New forests are established by planting. The timber sale staff merely sees that the operator overlooks nothing he needs.

Ranger stations are thriving modern communities with occasionally a non-Forest Service employee. Jobs are so plentiful that no applicants are rejected.

Weather is conquered and made so mild that uniforms are of the Gandhi style, with no buttons, and breech cloth optional. Kapoks are pneumatic, noncombustible and self-cleaning. Physical endurance is no longer necessary.

There is no difference of opinion on Forest Service policies and all Forest officers agree.

Pack horses have four speeds ahead and no reverse.

Mineral claims give title to subsurface rights only. Contests are no more.

Congressional committees on a junket prefer trips by pack train, camping out in primitive areas, to luxurious hotels of the National Parks.

Every Congressman and Senator is prodding the Forester to devise more ways of expending money to keep the Treasury surplus within bounds.

The public is so well informed and enthused that depredations, carelessness, poaching, and demands for curbing bureaucracy are unheard of.

Research, working on a one-day week, has left so little to discover that half its force is on sabbatical leave.

Rangers retire at 40 and spend the summit of their years improving the headquarters for their successors.

Retirement annuity is double what the employee ever thought he ought to have.

What disdain such an existence arouses. An empty dream, you say, and may such a life never be yours. If the above stirs contempt, the Forest Service has little to fear, for then indeed it has the heart of the young man who said:

"In the world's broad field of battle
In the bivouac of Life,
Be not like dumb driven cattle;
Be a hero in the strife.

....

Trust no future however pleasant,
Let the dead Past bury its dead.
Act - act in the living present,
Heart within and God o'erhead.
Let us then be up and doing,
With a heart for any fate.
Still achieving, still pursuing;
Learn to labor and to wait."

THE NATIONAL FOREST CHRISTMAS TREE

By Assistant Forester, L. F. Kneipp

In the average home in which a Christmas tree blossoms forth in all its physical and spiritual beauty there is almost always one last solemn moment in which the conspirators whose loving hands have trimmed the tree pause to consider whether their work, after all, has been well done. Is the tree as beautiful as it should be in form and decoration? Are the gifts the most suitable and appropriate? Will each recipient see in them an expression of his or her fair share of the family love and family fortune? Everybody who has trimmed a Christmas tree knows that feeling.

It is hardly even poetic license to liken the National Forest system to a gigantic Christmas tree, or the millions of souls whose lives and fortunes are affected by the National

Forests as members of a great family, or the hundreds of men and women who participate in the administration of the National Forests as those agents of happiness and human welfare dedicating their services to promote the spiritual and material well-being of their fellow men and women. The justice of this symbolic interpretation is indisputable.

But with the approach of another Christmas Eve those men and women are again faced with that period of searching introspection. The National Forest Christmas Tree stands as a visible evidence of their effort and labor. It teems with gifts in the form of definite benefits and services and constructive accomplishments. But---does it represent the best they could reasonably have done? Could they have made it a more beautiful tree, or could they have made the gifts more bountiful, or could they have so worked and wrought that those whose shares seem disappointingly small could have enjoyed measures of beneficial return more nearly commensurate with their needs and with the privileges and benefits of others?

The answer lies wholly with the workers themselves. Nobody else knows all of the circumstances attendant upon their efforts, and therefore nobody else can equitably evaluate the results of those efforts. But when Christmas Eve rolls around, each contributor to the decoration of the National Forest Christmas Tree may well ask himself whether he is satisfied with his contribution, and unless the answer, in the light of his own conscience, is sincerely affirmative, may well make a Christmas resolution to set a new standard for the succeeding year's contribution to the Tree.

CHRISTMAS 1960

By Assistant Forester, Roy Headley

I wonder sometimes if some of us, the younger men particularly, do not get a bit weary of reading the reminiscences and exploits of the old timers. The old timers, according to us elder statesmen at least, were he-men and their adventures in the public interest will go ringing down the corridors of correlated land management history. But let 'em ring. The achievements and mistakes of 1905 and 1910 and 1931 should need neither defense nor eulogy and they will have less to do with the achievements and mistakes of 1960 than what the new generation itself will do with its particular set of opportunities.

I shudder to think what rough treatment will be accorded at times to the perfectly good heritage of ideas we old timers will pass on to the upstart generation which is now just getting dry behind its public service ears. But what of it? It will be their generation, their set of problems, their special set of opportunities; and as they pursue the good, the true, the beautiful, what reason is there to assume they will not do it as devotedly and as dangerously as did the pioneers of the early years of the century.

Probably most of the men who as Supervisors, Regional Foresters, Assistant Regional Foresters, and Assistant Foresters will help shape the destinies of the Forest Service in the decade ending with 1960 will read these lines. And then, as they look back from the vantage point of 1960 they will be unable to restrain a smile at the crudities and poor thinking of 1931. Certainty of knowledge, sureness in execution, soundness of theory will by then be beyond the range of the vision of 1931. And what a lot of fun they will have had in reaching the eminence on which the quality of their public service will rest in 1960! As the old timers of 1960 compare notes they will recall pivotal occasions when trend struggled against trend and new ideas were advanced, expounded, and pounded - always with a happy ending of course as seen by the then old timers.

All of which brings me to what I really have on my mind - intellectual solidarity. I fondly believe that the elder generation will bequeath nothing more precious than what for lack of something better I would name incipient intellectual solidarity. Not that you of 1960 will all think alike. Heaven preserve you! If you should come to that you will be too dead to be worth burying. But if you follow up the start which has been made you will have perfected numerous devices which will both stimulate individual minds and facilitate that rubbing of mind on mind which not only produces common understanding but generates now and then the creative sparks which mean so much to the productivity of our organization.

Ten good thinkers working in partial intellectual insulation from each other add up to ten good men. But provide the habits and facilities for traffic between them in bona fide ideas and their effect on each other is one of multiplication rather than addition.

Discussion is an awful nuisance. "Telling 'em" is not only easier but seemingly at least, much more effective. I have much sympathy with the occasional man who detests our growing tendency to drag assumptions, generalities, and new ideas out in the open and "discuss" them. And of course, discussion cannot take the place of responsible executive decision. Executives cannot properly appoint committees as a refuge from the pain and risk of decisive action on their own part. But for the long pull, I venture to assert that there is no substitute for the growth and diffusion of ideas, the intellectual comradeship which comes out of the often wearisome thing we call discussion.

The trees of creative leadership can spread high and wide when they can strike their roots deep into a soil that has been well aerated and fertilized by fearless and openminded discussion. And I cherish the hope that in the history of American public service in the management of natural resources, it will be written that one of the most valuable parts of the estate transmitted by the first to the second generation of foresters was the habit of growth by discussion, - real discussion, not argument, nor flag waving, nor rationalization, nor salesmanship, but expert and honest discussion.

VARIETY - THE SPICE OF LIFE

By Regional Forester, Joseph C. Kircher

How many of you on the National Forests of the West are really aware of the diversity of conditions found in Region 7? No other Region has such a variety of climates and weather, as well as such a variety of trees and other plants. In what other Region could one pick bananas on a National Forest in the same month as one could wallow in three or four feet of snow on another? Yet strange as this may seem, it can be done in the National Forests of Region 7. Go to the Luquillo in Porto Rico in January or February and you may get bananas without buying them from "Dagos." Just help yourself. Or if you prefer coffee you will find the beans on the trees, maybe not in the National Forest, but mighty near it. Then travel hastily to the other end of the Region to the White Mountain Forest in New Hampshire and a lot of snow will greet you.

If the extremes don't please you, try something in between. There is the Ocala in Florida where you may pick oranges. (No, we don't grow them in the Forest, but some of our good friends and neighbors have plenty and will turn you loose among them.) Or possibly you'd rather fish or catch alligators in one of the lakes on the Ocala. The fish will bite in January. Or you might wade in the swamps of the Osceola in Florida to see the cypress stands. Or you may enjoy some deep sea fishing off Camp Pinchot on the Choctawhatchee or bask in the sun on the beach in front of the Ranger Station.

If you prefer the "in between," the "not so cold yet not too warm" in mid-winter, a trip to the Southern Appalachians, the home of the Christmas holly, would not be so bad. Yes, it freezes at night even in the mountains of Georgia on the Nantahala and the Cherokee, but the days warm up. The hardwood trees, of course, will be without leaves, but the weather is still "plenty nice" for a comfortable field season. So also are the hills of Virginia in the Shenandoah and Natural Bridge Forests.

For winter sports the White Mountain Forest, snow covered for several months, beckons. Among its spruces and hardwoods may be found all the thrills of skiing or snow-shoeing in a wild, rugged country with the thermometer below zero.

At this point, I expect my California friends to say, "Well, that's nothing, we've got all that and a lot of big trees, redwoods, firs and pines, the like of which you never did have in the East." Well, gentlemen, you've got me on the big trees, but remember you've "got no bananas." No, there are mighty few large trees on the Eastern Forests. These Forests consist mostly of cut-over lands, many badly abused in the past by fire and improper cutting. Our job is to bring them back to production through fire control and wise methods of silviculture practiced largely by means of salvage sales.

They do, however, contain many fine young stands which will some day again become the "virgin forests" of the East. Those areas which have been under Government ownership and protection for some years, present a picture of vigorous youth on the way to sound maturity.

To the tourist then, the Forests of Region 7 may mean winter, spring, summer, fall, or even yearlong playgrounds, but what do they mean to the foresters who have them in tow?

First, a yearlong field season: The snows of New England may shut down the works (although they log there all winter long) but at the same time fires may be burning on the Kisatchie in Louisiana, while in the Southern Appalachian Forests, like the Pisgah and Unaka, there is no shut down on field work at any time of the year.

A much longer and less well defined fire season: In many of the Southern Forests especially, the fire season is more or less yearlong. If there is no rain for a week or ten days, fires will burn whether it's January or July and such short, dry periods are liable to happen 'most any month. It is true that spring and fall are generally the worst, but the rest of the year accounts for many fires.

The most difficult, yet the most interesting job of the Region, is presented by the large number of timber types included in the forests. While the Western Regions are composed of a comparatively few coniferous types, there are in the Eastern Forests several brands of hardwood types each with an infinite variation of species such as birch, maple, the oaks, as well as yellow poplar, hickories, chestnut and many others. There are also such types as white, longleaf, shortleaf, slash and scrub pines, as well as spruce and hemlock and some others. Enough to make any forester scratch his head and it keeps us fellows in the Regional office busy keeping up with the silviculture of these species.

All in all, it's an interesting Region, one in which there is enough variation to interest any forester. Here are many new and interesting problems in forest land management in the very heart of the oldest part of the United States. If variety is the spice of life, the spice is here present in large doses. We of this new and interesting Region send you of the West our Christmas greetings and express the hope that at some time you will come to visit us "to see for yourself."

THE WATER POWER RESOURCES OF THE FORESTS

By T. W. Norcross, Chief Engineer

With the weather here in Washington so balmy and delightful - some reader will surely say "How unusual" - it is hard to think ahead to Christmas. So I was relieved when the Editor told me he had enough Christmas greetings and wanted me to write something about the proposed power resource and valuation study

The project itself received the approval of the Forester months ago. Also it was discussed during my field trip last summer. But due to the lack of certain details and of rulings by the Federal Power Commission, the instructions have not yet been sent to the Regions. However, the widespread interest in this project arising from a recent press release of the Forest Service may make advisable sending out the instructions soon even though later supplementation is necessary.

Water power of course is only one of the many resources that the Forest Service is responsible for administering. For proper management, we must know how much power the Forests contain and where it is located. Lots of information is available but this has never been compiled in systematic form. Also due to the lack of a standard method of expressing the power capacity of a site or stream, such estimates as we have are on several different bases. But our knowledge of location and amount is incomplete, so some further field investigative work is necessary. The first job is therefore to determine the power resources of the Forests.

Large bodies of Forest land, possibly several million acres, are now under power classification or withdrawal and this decidedly complicates Forest administration. Doubt exists whether all the land classified or withdrawn for power purposes is of real power value or that the value for some other purpose may not be greater. As work on the power resource and valuation study progresses, information will be available for making recommendations to the Geological Survey and Federal Power Commission for modification or vacation of classifications or withdrawals previously made, as well as classifying or withdrawing other land, which is found of primary value for power development.

The next step is to ascertain whether the Forest land which has a power value is of value for some other Forest use. If so, it is necessary to determine the use of the highest value. This is the most difficult part of the job. However a method has already been worked out for determining the economic value of a road and this with some change can be used for railroads. Also, several methods are available for evaluating land and water for power development. The present methods are not thoroughly satisfactory but, through usage and increased knowledge, improvements undoubtedly will be possible. I have full confidence that where methods do not now exist, the Branches concerned will find ways of evaluating land for other uses.

But even though the land may have higher value for some one use than for others, it still may be possible to make adjustments so that more than one use may be permitted. For instance, a piece of land may be determined as of highest value for power, but the probability is that development is ten or more years away. During that period utilization of the land for, say, recreation will not be objectionable from the power standpoint and the recreation value will be utilized. Or in other cases by some modification of design, size, or location, utilization of the land for two or more uses at the same time will be made possible.

In the aggregate the job is a big one, but no time for completion is specified. The main idea is to have the objective constantly in mind and to utilize every opportunity of making progress, even though only slight, towards the goal.

THE FOREST SERVICE FEMININE

By D. Priscilla Edgerton, Assistant Editor

It is some "Christmas Gif'", girls, when we are asked to tell about our forestal proclivities in the Service Bulletin. Strictly speaking, forestry is to women not a profession but a cause. Women are mighty good at espousing causes, and this particular cause is one that has enlisted the enthusiasm and loyalty of thousands of women throughout the land, as well as the hundreds within the Service. As a matter of statistics, there are 560 feminine permanent employees at Forest Service headquarters in Washington and in the Regional and other offices. 109 in Washington, and 451 in the field. There are, however, only five women in professional grades - one microscopist, one junior forester, one xylotomist, one forest tax statistician, and one botanist.

One of the technical feminine foresters qualified as a junior forester by completing a full forestry course, and forthwith married a forester of the opposite sex, which carried her over to the masculine side of the roster. They may not be entered on the payroll on one line as Mr. and Mrs., but she has doubtless merged her identity to the extent that we cannot count on her undivided allegiance to "us girls."

Seriously, if women had no other claim on the forestry profession than that which they have received vicariously through the splendid scientific work of Dr. Eloise Gerry, we should have a franchise which could not be abolished, and the fact that she is on the technical staff of the Forest Products Laboratory stamps her as an expert of the highest rank.

Others there are - scientific assistants, executive assistants, editors, authors, librarians, directors of educational and of informational activities, statisticians, chief clerks, law clerks, artists, and other specialists, in the feminine element of the Forest Service, to say nothing of the army of clerical workers, who, though they do not make the blue prints of the Forest Service accomplishment have a hand in putting them to effective use.

Perhaps the greatest numerical and right-on-the-ground opportunity for woman's direct influence in forestry work comes to the several hundred ranger wives. Now these wives - close your eyes, Mr. Ranger, or turn over to the next page - are a powerful influence in the forestry job, in that the content or discontent of the ranger's wife makes or breaks his career on the Forest, and as a cooperator or a deadhead, she can make or break the job also. The Editor of the Service Bulletin told me that in his field trips he has met many ranger better-halves and has come to have a high regard for their place in the Service picture. "After all," the Editor said, "why should these women at the heart of the Forest Service work wait for an invitation to make themselves more widely known, by telling their stories in the Service Bulletin? They should be so free of self-consciousness and awe of the genus forester that they will tell the world what goes on in their cross-section of forestry work as eagerly and effectively as they turn in their energies for an emergency or a community project." Ye Editor believes there are many, many human-interest stories on the pencil-tips of the ranger wives that would put a new literary flavor into the Service Bulletin. Let us hear from you, as we so often hear of you, Ranger Wives!

Then, too, in that great army of workers for the future - the teachers of the country - more and more of them are finding a place for the elements of forest conservation in their curricula, in correlation with geography, general science, economics, agriculture, etc. Again, wherever there is a State Federation of Women's Clubs, conservation, with forestry on the bill of fare, has its epicures.

The Society of American Foresters, the legion of honor in the field of forestry, has admitted one junior forester of the feminine persuasion, and three other women to associate membership, the former requiring a degree in forestry, the latter calling for some signal accomplishment and the fact that the applicant is known over a wide geographic area. The American Forestry Association and the American Nature Association have a number of women on their staffs and rolls. State and municipal work has been shared with women leaders in inception and administration.

To return to the U. S. Forest Service, there is perhaps no set of women workers in Uncle Sam's army of Federal employees more loyal and enthusiastic for the cause and the job. It is not likely that if all women employees were dropped from the Forest Service roll, the work would cease or even halt, but it is a woman's guess, that if any such Pied Piper intruded successfully, the powers that be would start out on a quest that would bring things back to normalcy. We may not be indispensable, girls, but we are very much appreciated and we know it!

A SNAKE STORY

By Jack Pine

These snake stories in the Bulletin reminds me of one Joe Mufraw told one night in camp on Sourdough Lake. They was two Joe Mufraws - one named Pete.

It was the year of "Hind-Side-to" Joe tells us. That year was the only time Paul Bunyan ever got lost, that is, lost real bad.

They had winter all Summer, and Summer all Winter that year. Leaves frost colored an' dropped in the Spring and sap started in the Fall. Palm trees sprouted on the Big Onion an' glaciers sprouted here n' there in Florida.

It was day before Christmas and Paul was headin' for camp when he sees palm trees an' the sun settin' in the East. Natcherly he thinks he's headin' South an' turns around an' heads North, as he thinks, but along about dark he finds hisself in Arizona. He bunks under a tree. Next morning he sees a mountin smokin' off to one side. It wasn't a fire like Paul thought, but smoke was comin' from a hole a half mile wide - like a volcano.

He hears a noise like the whine of a million-a-day band saw goin' thru knots, an' when he peeks over this hole is full o' rattlesnakes. The noise was their tails rattlin', an' the smoke was from their bodies rubbin'. It was a mother snake and her family. The littlest ones was only about six axhandles long, but the mother turns out to be pretty fair size when Paul hauls her out by the tail. It took a half hour of hand over hand pullin' to get to her head an' it made her right mad. When he let go of her, she coiled ready to strike, Joe Mufraw said, but instead of steppin' outa her way Paul just waited till she lunged an' then he ducked. Paul was so quick an' she was goin' so fast an' so hard that when she missed him and reached the end of her strike her neck was broke off, the head kep' right on travelin', and the baby snakes was minus a mother.

Paul put the little orphans out o' their misery by scrapin' up a few double-sections o' dirt with his boot an' fillin' the hole, but the poison that seeped out o' this here mountin killed every livin' tree an' blade o' grass for ten square mile. You can see it yet if you go to Arizona. Tha's right.

THE GAME MANAGEMENT ERA IS AT HAND

By John D. Jones, Assistant Regional Forester, R. 3

Although deer, antelope, or elk have never, to our knowledge, been used by Santa to haul his famous good cheer sleigh, they are not so far removed from the reindeer family that they might not be used in a pinch. Well, if St. Nicholas or Santa desires to try out any of these steeds Region 3 can fit him out with a few strings unbroken and as is.

Region 3 perhaps has not bulked large as a big game country to the other Regions, yet our deer are now numbered by the thousands and hunters flow in from Texas, Kansas, and Oklahoma each year in increased numbers. The elk herds of the region are also overflowing their original ranges and the need for an open season to remove the surplus has been discussed for the past two or three years. Likewise one of our antelope herds of about 2,500 animals is bulging out of its customary range and trimming up the juniper trees so that they look like umbrella trees and thereby endangering their future supply of that essential browse. It is true that our deer problem (they are the most numerous) has not reached Kaibabian proportions as yet, though some of our browse ranges are dangerously near it. There is a deer overstocking problem on some portion of over half of the forests of the Region.

The Southwestern Region in addition to its herds of big game has nearly a monopoly, in the West of the wild turkey hunting and many hunters would rather kill one of those majestic birds than the finest antlered buck that roams the woods. The turkey management problem is, however, how to increase the flocks. They are still far too few and in some instances this is due not to hunters or to their natural enemies but to the keen competition that they encounter in the winter ranges from deer for the oak mast, juniper berries, pinon nuts, etc. To secure a proper balance is another angle of the game problem that will require study and the gathering of basic facts on game feeds and game carrying capacities.

Our outstanding deer area was the Black Canyon country situated in the heart of the Gila Primitive Area. This area contains about 64,000 acres, 16,000 of which were under total protection from 1922 to 1928 as a State game refuge. Here the deer multiplied rapidly and the browse began to decline at an equally rapid rate, in fact, it is estimated now to have only about 50 per cent of its former deer feed. In 1928 the refuge was opened for a one-buck kill but this did little to alleviate the damage to browse. This year the kill was increased to two does or one doe and a buck and some 2,335 deer were checked out of the area or about one to every 27½ acres; 2,440 people hunted in this area during the twelve-day open season.

That the kill was justified is well borne out by the condition of the deer taken out. Several hornless bucks were killed. Others had deformed horns and an occasional crooked foot or leg. The average weight of dressed mule deer does taken from this region was 67½ pounds, at least 20 to 30 pounds below normal. The State Game Specialist who examined the area after the close of the present hunting season very aptly summarizes the situation: "We had here, we now realize, a situation probably never before met with in game management, a degenerated herd, undersized, underdeveloped and characterized by poor flesh, freak individuals and a serious shortage in reproduction, probably one doe out of three showing evidence of having fawns. No doubt, long scarcity of suitable food, abnormal diet, and probably more or less inbreeding as a result of continual congestion on a limited range, formerly favored in practically every respect as an ideal mule deer range, had serious effects."

All this happened on a range that has a luxuriant growth of grass, but the story is told by the shortage of juniper, oak, and mahogany browse. Even pine seedlings are paying a heavy toll; in some places, as high as 70 per cent of this year's leaders have been taken The present heavy removal of both does and bucks should very materially relieve the Black Canyon area of the heavy drain on browse plants for several seasons and in the meantime give the shrubs a chance to recuperate.

Although Black Canyon has the heaviest over-population there are several other areas that will need careful watching and appropriate action. The time when game management consisted only of protection is rapidly emerging into the larger problem of management involving carrying capacities of game ranges, the maintenance of a proper balance between game and vegetation, as well as between game species and game and domestic animals. The handling of game is passing out of the limbo of blind hit-and-miss rules based on street corner gossip to results obtained from carefully planned field experiments by trained observers. Game management is rapidly becoming a science based upon recorded facts.

A GOOD-WILL WISH FROM YE ED

Ye Ed. and his faithful assistant have put their heads together (metaphorically speaking) and both agree that along with all the other greetings that will go to you, they, too, want to send to all readers of the Bulletin a seasonal greeting. It is - Merry Christmas! Happy New Year! Good health and much happiness.

SERVICE BULLETIN

CONTENTS CONFIDENTIAL

> WE ARE COMING TO RECOGNIZE AS NEVER BEFORE THE RIGHT OF THE NATION TO GUARD ITS OWN FUTURE IN THE ESSENTIAL MATTER OF NATURAL RESOURCES IN THE PAST WE HAVE ADMITTED THE RIGHT OF THE INDIVIDUAL TO INJURE THE FUTURE OF THE REPUBLIC FOR ITS OWN PRESENT PROFIT xxx THE TIME HAS COME FOR A CHANGE AS A PEOPLE WE HAVE THE RIGHT AND THE DUTY xxxx TO PROTECT OURSELVES AND OUR CHILDREN AGAINST THE WASTEFUL DEVELOPMENT OF OUR NATIONAL RESOURCES, WHETHER THAT WASTE IS CAUSED BY THE ACTUAL DESTRUCTION OF SUCH RESOURCES OR BY MAKING THEM IMPOSSIBLE OF DEVELOPMENT HEREAFTER
>
> Theodore Roosevelt

Vol. XV, No. 52 Washington, D. C. December 28, 1931.

THE SECRETARY EXPLAINS FF DEFICIENCY TO THE BUREAU OF THE BUDGET

(Extract from the Secretary's letter to the Budget Bureau)

In 1931, adverse weather conditions prevailed over a greater stretch of National Forest territory than in any previous year, extending from Southern California northward to the Canadian border and then eastward through Idaho and Montana and including northern Wyoming and South Dakota. Weather conditions in eastern Washington and Oregon, all of Idaho and Montana, and northern South Dakota and Wyoming were the most unfavorable experienced by the Forest Service in that territory in the past 20 years. Fortunately the burning season was shorter in all of these States than it was in 1929.

Ordinarily winter storms break the effect of preceding droughts. Last winter, however, the snowfall was extremely light, especially in the Northwest and the drought continued unbroken. To a greater or less extent the same unprecedented conditions have now existed for at least three years. By mid-July the cumulative effect of the drought had the Forests in this region in a powder keg state of inflammability. Road construction crews which ordinarily encounter moist soil from a foot to two feet beneath the surface, worked in clouds of dust in excavations four feet and more in depth. The duff moisture content which is rated as extremely dangerous at 10 per cent dropped to 4 per cent, for the first time since records of this sort have been kept, and held at this low figure for extended periods.

Careful analyses have been made of the weather conditions of 1931 as compared with conditions in the three bad fire years of 1919, 1926, and 1929. For the National Forests in eastern Washington and Oregon, all of Idaho and Montana and northern South Dakota and Wyoming, the pre-season precipitation in 1931 was less in amount than in 1919, 1926, or 1929. Beginning with July the Forests in this territory experienced drought conditions more serious than those faced in the three years above mentioned. This drought was not broken until early September. Fuel in old burns and on southern exposure was almost bone dry early in the season and continued so. Lack of stored moisture caused an extraordinary number of conifer needles to dry and reduced the moisture content in those remaining green to a point where they were almost as inflammable as oil. Springs and creeks which had never before gone dry were dry during the past summer. Dying of timber along the exterior fringe of timber growth, extending back into the timber from three to five miles, increased markedly. As a result of these extremely unfavorable weather conditions the forest floor was at such an inflammable state and the tree crowns were so thoroughly dried out that it required only a spark and a breeze to create a conflagration.

As an example of conditions which confronted the firefighting forces of the Forest Service this summer the Priest River fire in northern Idaho might be cited. This fire started on August 3, at 11 o'clock in the morning outside the forest boundary. It "crowned" immediately and within an hour was two miles long and a mile wide. In the early afternoon it was racing on a front of five miles and a length of fifteen. By nightfall, when the wind dropped, it had destroyed 34 ranches, blocked two highways with burning timber and trapped a hundred people.

By midnight 700 men were attacking the fire and by noon of the next day 1500 men were on the fire line. Within five days the tremendous job of building ninety miles of line around this fire, in dense timber, down logs and steep slopes, was completed but it required six weeks of "mopping up" and patrol before the fire was considered safe.

Fire conditions were so critical in the States of Montana and Idaho that the governors of those States issued proclamations dealing with the urgency of the fire situation in that territory. The Governor of Idaho declared martial law in a number of counties in southern Idaho and called out the National Guard to enforce his declaration. Travel on roads through the National Forests in these counties was allowed only under written permit from the Adjutant General of the State. National Guardsmen were stationed at entrance roads and patrolled critical forest areas. Never before has martial law been declared because of the seriousness of fire conditions in National Forest territory.

Despite these conditions the area burned over for all National Forests was held to a figure approximating the annual average of the five year period extending from 1926 to 1930 and was much lower than in 1926 and 1929, and although expenditures were unusually large, the sum of suppression costs plus damage to National Forest properties was lower than during the easier seasons of 1926 and 1929.

The Forest Service is very much concerned over the cost of fire control on the National Forests. Its organization is much better prepared to meet critical fire situations than it was ten years or even five years ago. In spite of this fact, expenditures in the first four months of the current fiscal year have been greater than in any previous year. This situation is undoubtedly due to the adverse weather conditions of 1931, cumulative effect of the long continued drought in the National Forests of the West, and the rapid and steady increase in the industrial and recreational uses of the National Forests. The hazard occasioned by a greater use of the National Forests by recreationists has been very largely offset by invoking the Department's regulation prohibiting travel on National Forest lands where and when the hazard is great. It is apparent that heavy expenditures for fire control will have to be made as long as the present long-term dry cycle continues. During the past summer, fires spread so rapidly from blazes of insignificant proportions to fires covering thousands of acres in size, that the Regional Forester in the Northern Region used the word "explosive" in describing fire conditions in his Region during the summer. The Forest Service is confident that when the present dry cycle comes to an end, suppression costs and damage will be held to a record low.

Twenty Forest Service employees were killed on fire suppression work last summer. A brief summary of these cases has been prepared and is attached for your information.

A statement of expenditures from the Fighting Forest Fires appropriation for fire suppression and prevention for the fiscal year 1932, showing the division between National Forest Regions and fire fighting and emergency guards, is given below:

	Actual, July 1 to Nov. 10, 1931		Estimated, Nov. 11 to Dec. 31, 1931		
Region	Fire Suppression	Emergency Guards	Fire Suppression	Emergency Guards	Total
1	$1,945,215	$103,095	—	—	$2,048,310
2	146,306	1,479	—	—	147,785
3	4,029	710	—	—	4,739
4	661,144	25,735	—	—	686,879
5	584,919	32,775	5,000	1,850	624,544
6	427,530	42,728	—	—	470,258
7	10,840	2,535	6,325	2,300	22,000
8	95	—	—	—	95
9	11,170	750	—	—	11,920
	$3,791,248	$209,807	$11,325	$4,150	$4,016,530

A classification of the total of $4,001,055 expended between July 1 and November 10 is given below:

Wages	$2,222,244
Subsistence supplies	635,358
Other supplies and equipment	598,090
Transportation	545,363
Total	$4,001,055

THE HIGHWAY OF LO!

By L. C. Pratt, R.8

How were the Americas peopled? Whence came the forbears of the widely diffused Eskimo and American Indian and of those millions of Mayas of Yucatan and Central America who many scientists claim attained a density of population and a cultural development equal to that of Siam and other ancient centers of civilization?

Most investigators agree on a theory that the western hemisphere was settled by immigration from Asia, probably by way of Bering Strait to the shores of Alaska, thence southward until they peopled the whole of North and South America. One of the leading protagonists of this theory is Dr. Ales Hrdlicka, Curator of Anthropology of the Smithsonian Institution. The Doctor has spent years of patient exploration in the North and study among the relics and manuscripts of the museums. It is upon the result of this research that the Doctor bases his theory of the Asiatic origin of the American Indian and the migration to America by way of Bering Strait. It this theory is correct, the present National Forests of Alaska were one of the highways over which this momentous migration took place.

Through the long course of ages, their villages spread far and wide. Many of the people remained coast dwellers in the northern wastes, gained their sustenance easily from the exhaustless storehouse of the sea. These coast dwellers were the forbears of our present Eskimos.

The Eskimo civilization is an old one, and evidence of its early culture, now being exhumed for study from beneath the accumultion of ages, points pretty clearly to Asiatic origin.

As the population increased beyond the "carrying capacity of the range," some of the families and tribes began moving up the broad river valleys, but principally, says Dr. Hrdlicka they moved southward, down the coast. Eventually these people and their descendants spread throughout Alaska and Canada, and, after eons of wandering, to the uttermost parts of America.

Those who followed the coast line in their slow southward migration traversed the whole length of our Alaskan National Forests. All through the National Forests of Alaska, from Kenai Peninsula to Dixon Entrance, are to be found the remains of their ancient villages, many of them of undoubted antiquity. In the Prince William Sound region alone, with which the writer is most familiar, more than fifty ancient village sites have been discovered. Some of these now support venerable forests of spruce and hemlock 300 or more years old. Sites vastly older must exist beneath the forest litter, to remain completely obliterated until the spade of the archeologist shall uncover them.

The culture of these early aborigines was primative in the extreme. Specimens found buried in the debris of the old village sites are nearly all of stone, except in the strictly Eskimo territory of the far north, where much ivory was used in the making of weapons and other implements. Along the southern coasts of Alaska, the more common cultural specimens consist of axes, hammers, throwing stones, knives, lamps, and so on, all made of stone. Generally speaking, the workmanship is somewhat crude, although a few stone lamps have been found which show considerable craftsmanship and some attempt at the decorative art.

The villages were never very large, consisting generally of but a few families. The huts were of the "barabara" type, semi-subterranean, heavily thatched over a light framework. The usual size of the huts is eight or ten feet square, some a little larger.

In the newer sites one may still see the slight but unmistakable depressions where the huts stood. Under the moss and dense vegetation which uniformly covers the sites will be found a layer, often four or five feet deep, of clamshells, bones, and other refuse. It is this rubbish heap which yields the patient investigator the cultural specimens for which he is searching. It is an interesting and absorbing study, this tracing the footsteps of the forefathers of our American Indian. A little is known, but much remains to be learned.

Our Alaskan National Forests may yet contribute an interesting and important chapter to this amazing history, and as a by-product furnish much valuable material for the museums of the nation.

FIRE EQUIPMENT IN ACTION 1931 - A GLIMPSE.

By H. Hopkins, Washington

We hear so much at present about the need for more fire-fighting equipment. We repeatedly hear about all the equipment we have that is not put to full use. One is apt at times to get a distinctly discouraging impression of our progress in increased efficiency and use of modern fire-fighting tools.

I happened to be on the Sierra National Forest during the fire season this summer. A fire squadron was stationed at the Supervisor's headquarters and I went out to see the fire equipment. Adjacent to the Supervisor's office was a fire truck building and a mess and sleeping quarters building for the fire squadron crew.

Three fire trucks were lined up for immediate action, all in as spick and span condition as the fire apparatus which is the pride of any modern city. One of the trucks held a complete mess outfit for feeding a 50-man crew. The crew, in the early morning, were re-touching and reshining the perfectly kept fire equipment, equally ready for an unexpected inspection or fire line action.

Secretly I resolved to climb on board the truck if the fire bell sounded while I was at the office, and see if the crew and equipment functioned as well as they appeared.

Before noon of that same day the fire dispatcher in the Supervisor's office received a phone call. The dispatcher scribbled the location on the fire on a note sheet while the fire siren sounded for one truck to go into action.

I had one foot partly out from under my desk when the fire truck, with crew all on board, came by the Supervisor's office. Without stopping, the note was seized from the dispatcher's hand and the truck was en route to the fire at 20 - 25 miles per hour. By the time I was on my feet the truck was up the road, a vanishing flash of brilliant red and shiny equipment. At a 30-40 mile clip with increasing speed, siren going full blast, it was on its way with all ordinary traffic pulled to the side of the road.

Such action which the Forest Service is now securing on some of its worst fire forests is an inspiration in itself. A map showing the fires of this year to date on the Sierra Forest told the story of the actual result of such equipment and action far better than words. Along the border outside the forest boundary were mapped a strip of large fire areas - all class C. Inside the forest boundary the mapped fires, in similar types, were much fewer in number and class A and B in size. Who among us could have seen a sight and results equal to this, or even dared hope for such ten years ago?

A few weeks later I was studying cut-over timber sale areas on the Lassen National Forest, when Supervisor Durbin returned from a fire.

"Yes", he said, "it had a mighty bad start and looked very dangerous. They told me that there was no use trying to send for a tractor to clear out fire lines because a heavy enough tractor could not be driven there in time to be of use. Looked bad, as we could not hold the line without machinery to open up a fire line through the heavy brush, so I had a ten ton cat put on a truck and the truck drove it right to the fire. With its help we had the fire controlled before it did much damage. If we had not been able to get that 'cat' into early action - well, instead of my being back here we would all be out on a long-time fire line job." A ten ton tractor being rushed out to a fire line on a truck and thus saving the day! Could we picture that ten years ago!

We are a long way from the ideal in either securing needed fire equipment or in the full use of the equipment we have, and yet when we look back what strides have been made.

One more thought, will every Forest be able to get as good action and put such equipment as they have so efficiently into use as these two examples, when the next emergency arises?

THE DANGERS OF CIVILIZATION

In Central American jungles a brilliant people developed out of savagery in a few thousand years one of the greatest civilizations the world has known.

Built upon the foundation of the maize crop, this civilization compared favorably in nearly every respect with the two other great cultures to which mankind has achieved--that of China, and that of Egypt and Mesopotamia, in the fruition of which, it might be maintained, the Western world now lives.

In far less time than was required for its growth this civilization dwindled and died. In the course of a very few generations the cities, with their temples and palaces and the fertile fields around them, were abandoned to the jungle. The people fled. The abandonment of Uaxactun was, in a way, comparable to the sudden desertion of New York or Chicago in our own day.

Yet, so far as archeologists have been able to determine, there was no sudden catastrophe. There was no destructive war, earthquake, or hurricane. The Carnegie Institution of Washington may at last have come upon a clue which will solve the mystery of the fall of the old Maya empire, and in doing so have provided a frightful object lesson for the present. It died from the very forces that had made possible life and growth. When the first cornfield was cleared and planted in the midst of the tropical jungle the way was opened to prosperity comfort, leisure, mechanical and cultural advance and--inevitably death. Like man himself, an empire was born with the seeds of dissolution within itself.

Progress required leisure and cooperation. These required wealth, represented by a storable surplus of food. This rested upon the corn crop. In order to plant corn it was necessary to clear the hillsides. Once the forests were removed the soil was left unprotected from the torrential tropical rains. The beautiful fresh water lakes which covered Central Yucatan at the beginning of the Christian era were filled with washings from the fields and became marshes. The marshes drew mosquitoes and other insects. These brought pestilences, sapped the energy of the people, and made continuation of the culture impossible. The old, dark jungle laughed at the puny wit of the race which had striven to conquer it. The mind of man is nature's foe. Nature conquers by seeming to yield until suspicion is diverted.

This is far more than a warning of the dangers inherent in deforestation. This is only an incident. The other two great cultures survived in spite of it, although China had a hard struggle. It is a warning of the legions of dangers inherent in civilization itself--in the machine, in the specialization of man, in the flaunting of the age-old ways of river and forest and wind and storm by the puny devices which increase the temporary comfort of man.

Mr. H. G. Wells, recently a visitor in Washington, looks to a world made over in accordance with science. But is there not also room for a science made over in accord with nature--an adjustment of man to his environment as well as an adjustment of nature to man?

Nature is a loyal friend. She is a merciless, unscrupulous, deceitful foe.

--From the Washington Star.

MORE ABOUT WISCONSIN LUMBERMAN'S PLAN

By E. W. Tinker, R.9

Reference is made to article, "Lumber Producers Plan to Aid their Employees" quoted from the American Lumberman of October 10 in the November 2 issue of the Service Bulletin.

There is no doubt that Wisconsin lumbermen are earnestly endeavoring to relieve unemployment conditions. However, certain peculiar phases of this plan are worthy of attention. Quite obviously it will provide for a curtailment of production. The plan, by bringing the State into it, permits the lumbermen to enter into a cooperative agreement covering curtailments that otherwise might be viewed with great suspicion. Last week this agreement was discussed at a meeting of timber land owners in the State of Michigan by Judge Bennett of the Hines interests. As a lawyer, the Judge throws some interesting light upon the limits of the Sherman Law. Judge Bennett started with the premises that the Constitution only granted to the Federal Government such authorities as were specifically provided and granted by the States. On this basis he reasoned that while this included inter-state commerce, manufacturing was not commerce and therefore the Sherman Law would not apply to agreements covering curtailment of production where manufacturing only was involved.

In brief, Judge Bennett at the meeting in Michigan, proposed a plan involving two elements: First, a cooperative agreement among the manufacturers curtailing production. While this agreement is administered by a joint committee involving the State and other agencies, the lumbermen considered the other agencies largely ornamentation. Secondly, he proposes a State law forbidding the sale of a product at below the cost of production. Possibly this proposal justifies some skepticism on the part of those who are suffused with the cry raised to keep government out of business. In discussing the proposal with the Judge, he stated without equivocation two results that would be forthcoming: First, the elimination of owners who have excessive investments in stumpage, installed capacities, or whose costs of operation were overly high. Secondly, there would be a raise in price of lumber to the consumers. In passing it might be stated that in this Region, from the consumer's standpoint, lumber is plenty high right now.

A plan is offered and accepted in part at least indicating the merit of aggressiveness and taking advantage of conditions as they are.

YE EDITOR DISCOVERS

The National Forest Reservation Commission held a meeting on December 14, which in the light of present circumstances may be the last for a considerable period of time. At this meeting the Commission approved purchases sufficiently in excess of all available balances to absolutely guarantee that there shall be no loss of appropriations through default of purchase agreements. Since the estimates for the fiscal year 1933 contemplate an appropriation of only $245,940, or just enough to maintain a minimum permanent acquisition organization, prospects for additional land purchases in the near future are not particularly optimistic. At the time of the meeting Regions 7 and 9 had options upon approximately one million dollars worth of desirable land, and the process of selecting from that total the two hundred thousand dollars worth to be proposed for purchase was a difficult task involving many changes of mind and rearrangement of priorities. The owners of the eight hundred thousand dollars of optioned land which could not be approved for purchase because of lack of funds must now be given the choice of withdrawing their options or, if they are optimistic, of letting them ride until funds are available for purchase.

The outstanding feature of the December 14 program was the fact that it was comprised almost entirely of small holdings, there being 421 separate cases listed for consideration to make up the approved total of 82,575 acres. There were several instances where two or more cases were offered by the same person, but the approval of the program will enable about 400 separate individuals or companies to liquidate rather frozen assets and perhaps through the money thus made available to save themselves from serious financial embarrassment.

The second bid of the proposed new purchase units in Wisconsin was hardly more successful than the first, the matter being postponed for later consideration by the Commission notwithstanding the impressing array of petitions, telegrams, letters of endorsement. etc., and the urgent request of several members of the Senate and House of Representatives that the units be approved.

Representative Wall Doxey of Mississippi, who has been appointed to the Commission as successor to the late Dr. Aswell, displayed a keen interest in the acquisition work and a strong desire to cooperate in carrying it to fruition.

- - - - - - - -

Forest Ranger "Jim Robbins" and his assistant "Jerry Quick" will make their debut on the air Thursday, January 7, in the first episode of a new radio drama entitled "Uncle Sam's Forest Rangers." The program will be given at 1 p. m., eastern standard time, during the National Farm and Home Hour and will continue at the same time each Thursday over a network of some thirty stations covering all but the Western States. The drama will be presented in the Chicago studio of the National Broadcasting Company with professional talent furnished by the broadcasters. The continuing drama, written by C. E. Randall of the Washington office, will follow the work of the National Forest officers through the year. Officials of the National Broadcasting Company and of the National Association of Broadcasters have expressed interest in the proposed program, which they consider to be more or less pioneering work in the field of educational broadcasting.

- - - - - - - - -

From widely separated points comes news that indicates, we hope, a break in the long sustained drought in the fire Regions. Supervisor Shaw of the Ouachita adds to his ten-day fire report for the period ending November 30: "This is the first ten-day period without a fire since the second ten-day period in January 1930, making a total of 66 consecutive ten-day periods with fires. Proving that if you live long enough you will finally get a "break." On the Sawtooth in Region 4 the total snowfall at the Supervisor's headquarters to November 30 amounted to 19¼ inches. At Atlanta Summit northwest of Hailey, Idaho, there were 45 inches of snow on November 30. In typical California style, the snow reports from the Sierras are in terms of feet instead of inches. In the Southwest Indian pinon pickers have had to be brought in on snow sleds.

- - - - - - - - -

Hearings before the Sub Committee on Appropriations which will handle the agricultural appropriations bill started on December 17. The Democrats, now being a majority in the House, have organized the various committees, The following have been designated as members of the above Sub Committee: James P. Buchanan of Texas John N. Sandlin of Louisiana, Michael J. Hart of Michigan, Robert J. Simmons of Nebraska, and John W. Summers of Washington.

- - - - - - - - -

Tentative approval has been given by the Supervising Architect of the Treasury Department to the plan for a Forest Service building in Ogden to care for the Regional office and the Intermountain Forest and Range Experiment Station. Surprisingly little difficulty was encountered by Mr. Rutledge and the local architects who had drawn the preliminary plans in securing approval of the Forest Service, the Secretary's office, and the Supervising Architect. Title to the site has been approved and bids will presumably be invited from contractors.

- - - - - - - - -

A local architect from Albuquerque is in Washington in connection with preliminary plans for a small Federal building at Silver City, New Mexico. This building will provide for the Post Office, the Forest Service headquarters of the enlarged Gila National Forest, and other Federal agencies located at that point.

SERVICE DIRECTORY

In order to complete the distribution of the October Service Directory, it will be necessary to have returned to the Washington office at least 200 copies. It will be appreciated if the several field offices will return a few of the copies sent to them to be used in furnishing copies to other units that have not received any. If one copy is all that you can spare, do not hesitate to send it in. No reprint is possible because the type has been distributed at the Government Printing Office.

PIPING DOWN?

How about "WHISPERING" as a theme song for the California Region. That ought to neutralize some of the "primary defect." We might even compose one entitled "Yes, We Have No Bologna." Anything at all to please Mr. Ye-ed. - From the R-5 Bulletin.

(Don't get us wrong California. We all like your Bologna. - Ye Ed.)

U. S. DEPARTMENT OF AGRICULTURE
LIBRARY

NOTICE TO BORROWERS

Please return all books promptly after finishing your use of them, in order that they may be available for reference by other persons who need to use them.

Please do not lend to others the books and periodicals charged to you. Return them to the Library to be charged to the persons who wish them.

The mutilation, destruction, or theft of Library property is punishable by law. (20 Stat. 171, June 15, 1878.)

Lib. 9

GPO

3—7888